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May 26, 1909

No. 12.

REPORT

OF THE

WEST VIRGINIA
State Board of Agriculture,

FOR THE

Quarter Ending December 31, 1908.

Entered April 13, 1906, at the Post Office, Charleston, W. Va., as second-class matter, under Act of Congress June 6, 1900.

List of Birds Found in West Virginia

by Earle A. Brooks

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Charleston
The Tribune Printing Co.
1909

ROSE-BREASTED GROSBEAK

(Upper Figure, Male: Lower Figure, Female)

Order—Passeres
Family—Fringillidæ
Genus—Zamelodia
Species—Ludoviciana

No. 12.

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WEST VIRGINIA

STATE BOARD OF AGRICULTURE,

1908.

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INTRODUCTION.

The purpose of this brief descriptive list of the birds in the exhibit of the State Board of Agriculture, is to enable all who are interested in the bird-life of our state to use this collection to the very best advantage.

The birds have been collected, mounted, and placed on exhibition in these rooms, and should be prized by those who have opportunity to study them. Few states have better collections. By additions, which we hope to make from time to time, the list will soon be complete, representing all the species and sub-species of birds that are found in West Virginia.

The total list of birds, which the writer has compiled, includes about two hundred and fifty species that have been found by himself and other bird students within the borders of the state. There is no doubt that, after some years of observation, our list of West Virginia birds may include as many as three hundred species and sub-species. If this collection of 331 specimens, representing 193 species and sub-species of West Virginia birds, is used as it should be, it will be such a help to those who seek to know more of the birds of our state that many persons will soon become interested, will be on the look-out for birds both common and rare, and will soon swell the list of our own native birds to far more than 250.

When any one is interested in any particular species in this collection, and has a desire to know something of its distribution, nesting, and food-habits, let him note the number on the bird, then find the corresponding number in the catalogue. With that number will be found a brief note on the bird and its habits. If further information be desired, let him take some good book on birds, like Chapman's "Hand-book of Birds" (D. Appleton and Co., New York City), and, under the same number, he will find a full description of the species under study. For instance, the number attached to the pair of Cardinals, or Red Birds, in the collection is 593. By turning to number 593 in the catalogue, a brief description of the distribution, nesting habits and food-habits of this beautiful bird may be found. Then, by turning to the same number (593) in any good book on birds,

any additional information that may be desired will be found. Use the catalogue carefully, and preserve it for future study. Note, in the marginal spaces, your own observations on the habits of the various species.

I am under obligations to all those whose notes, books, and papers I have used in preparing this list. I wish to express my thanks to them, and to all who have helped in preparing this catalogue and the collection which it describes.

Weston, West Virginia,
December, 1908.

A DESCRIPTIVE CATALOGUE

——OF THE——

BIRDS IN THE ORNITHOLOGICAL EXHIBIT

——OF THE——

WEST VIRGINIA STATE BOARD OF AGRICULTURE.

BY EARLE A. BROOKS.

3. Horned Grebe (*Colymbus auritus*). This specimen is an adult in winter plumage. Much more beautifully colored in summer.

Geog. Dist.—Found throughout the northern hemisphere.

W. Va. Dist.—Not at all uncommon during migration. A fine adult in full plumage was taken alive at Weston, Apr. 19, 1907. May be found along any of our rivers or larger streams. Mr. T. A. Morgan says, "Have killed many of them in August." (These specimens taken by Mr. Morgan were found along the Great Kanawha River.)

Nest—Breeds in northern U. S. and northward. Floating nest, among rushes in sloughs and ponds.

Food—Fish and other aquatic animals.

6. Pied-billed Grebe (*Podilymbus podiceps*). An adult bird and a young bird represent this common species in the collection. By means of these two specimens the student can identify the "Dab-chick" with little difficulty.

Geog. Dist.—Found throughout nearly all of North and South America.

W. Va. Dist.—Common on the Ohio River and along many of our streams. For some time one day I watched two Pied-billed Grebes busily searching for food under a bridge which crosses Bull Creek

(NOTE:—The numbers preceding the names are the numbers used in the American Ornithologists' Union's check-list, and are given here for convenience in referring to any standard book on birds. Few abbreviations are used. "Geog. Dist." stands for the general distribution of a given species. "W. Va. Dist." stands at the head of the paragraph which gives the distribution of a species in West Virginia.)

near the point where it empties into the Ohio. Mr. Thad. Surber says this species is common about White Sulphur Springs in Greenbrier County. This species has been seen frequently on French Creek, a small stream in Upshur County.

Nest—Breeds throughout its range. I do not know that the nest of this bird has ever been found in West Virginia.

Food—Fish and aquatic life of other kinds.

7. Loon (*Gavia imber*). The two birds in the collection represent the summer and winter plumage of this fine water-fowl.

Geog. Dist.—Northern North America.

W. Va. Dist.—Found only as a migrant. Quite common at times.

Nest—Breeds from our northern states northward. Nest in a slight depression in the ground near some lake or pond.

Food—Fish.

11. Red-throated Loon (*Gavia lumme*). We are fortunate in having one specimen of this northern bird in our collection.

Geog. Dist.—Northern part of northern hemisphere.

W. Va. Dist.—Very rare in West Virginia.

Nest—Breeds from Canadian provinces northward.

Food—Fish.

54. Ring-billed Gull (*Larus delawarensis*). This is an adult, and suggests the beautiful colors and graceful forms of all the Gulls.

Geog. Dist.—Interior North America.

W. Va. Dist.—Reported by Mr. Surber from White Sulphur Springs. Rare in this state.

Nest—Breeds from southern Minnesota northward. Nest on ground.

Food—Gathers food of many kinds from surface of land and water. Often feeds on insects.

60. Bonaparte's Gull (*Larus philadelphia*). The two specimens in this collection fairly represent this interesting bird.

Geog. Dist.—Whole of North America.

W. Va. Dist.—On Apr. 15, 1905, I saw seventy-five of these birds flying low over the Ohio River (See *West Virginia School Journal*, June, 1905). Rev. G. Eifrig has seen this species along the Potomac near Cumberland.

Nest—Nest on stumps, bushes, trees. Breeds north of U. S.

Food—Different forms of life along water-ways.

70. Common Tern (*Sterna hirundo*). Two specimens.

Geog. Dist.—Eastern part of North America and Africa.

W. Va. Dist.—Rare in West Virginia.

Nest—For account of nesting, etc., see "Camps and Cruises of an Ornithologist", by Frank M. Chapman (D. Appleton and Co., New York City. $3.00).

Food—Small fish.

77. Black Tern (*Hydrochelidon nigra surinamensis*). The difference in the color of the adult and young is shown in these two specimens.

Geog. Dist.—Temperate and tropical North America.

W. Va. Dist.—On May 30, 1901, Rev. G. Eifrig saw a female Black Tern on the "Swamp Ponds", Mineral County. Mr. A. Sidney Morgan says he has killed several of these birds along the Great Kanawha.

Nest—Breeds in interior North America. Nest in marshy places.

Food—Dragon flies and other aquatic insects.

120. Double-crested Cormorant (*Phalacrocorax auritus*). These two specimens show in a striking way the rich plumage and the characteristic poses of the Cormorants.

Geog. Dist.—Eastern North America.

W. Va. Dist.—Reported by the Morgan brothers from the Great Kanawha River. The writer has in his posession a Double-crested Cormorant that was killed on the Ohio River, near Waverly, on Christmas day, 1907.

Nest—Breeds from Dakota northward. Nests on cliff-sides and in various other places.

Food—Fish.

129. American Merganser (*Mergus americanus*). The very striking difference in the color of the male and female is illustrated in these two birds.

Geog. Dist.—North America.

W. Va. Dist.—A few West Virginia records have been made for this fish-eating duck. Mr. Surber says he has seen it on the Greenbrier River. Mr. T. A. Morgan says, "Have killed three". Mr. Eifrig recorded the species from W. Va.

Nest—Breeds from Minnesota northward. Builds its nest in a hole in a tree.

Food—Fish and other aquatic forms of life.

131. Hooded Merganser (*Lophodytes cucullatus*). Few water birds are more beautiful than the Hooded Merganser. The pair of birds in this collection will suggest the appearance of the birds when in life, as they may be seen some times on the rivers of West Virginia.

Geog. Dist.—North America generally.

W. Va. Dist.—I have a number of West Virginia records for this species. At Williamstown, W. Va., I examined a fine adult male of this species that was taken by Mr. S. S. Stuart on Mar. 29, 1906.

Nest—In a hollow tree or stump near the water.

Food—Roots, seeds, &c.

132. Mallard (*Anas platyrhynchos*). Pair of adults.

Geog. Dist.—Northern parts of northern hemisphere.

W. Va. Dist.—Mr. T. Z. Atkeson, who wrote, in 1899, a thesis entitled "The Water-Fowl of West Virginia," says of this species, "The Mallard is perhaps the most common of all the edible water-fowl that frequent this state. During the spring and autumn they may be found on any of our principal rivers."

Nest—Breeds in northern parts of U. S. and northward.

Food—A few days ago I examined a Mallard which was in the possession of Mr. E. J. Hughes, Weston, W. Va., and found that it had been feeding on large numbers of little clams. These mollusks were about the size of a large pea, and the duck had swallowed them shell and all. Any one who knows the domestic duck, a descendant of the Mallard, has observed the omnivorous feeding habits of the species under consideration.

133. Black Duck (*Anas rubripes*). Represented in the collection by a single male.

Geog. Dist.—Eastern North America.

W. Va. Dist.—The Morgan brothers, who have studied water-fowl so carefully along Great Kanawha waters, say that they have seen this species frequently. Mr. Eifrig noted the Black Duck on the Potomac.

Nest—Breeds from Illinois northward. No certain W. Va. breeding record.

Food—Similar to that of the Mallard.

139. Green-winged Teal (*Anas carolinensis*). The origin of the name of this species may be seen by a glance at the wings of the male in the collection.

Geog. Dist.—North America.

W. Va. Dist.—Rather common at times in West Virginia.

Nest—Breeds from northern U. S. northward.

Food—Mollusks, crustaceans, insects.

144. Wood Duck (*Aix sponsa*). *"Aix"* means duck, and *"sponsa"* may be translated, arrayed as a bride. The gorgeous nuptial plumes of the male show the appropriateness of this name. How could a bird be more beautifully colored than is this "vanishing game bird"?

Geog. Dist.—Temperate North America.

W. Va. Dist.—Reported from many points in West Virginia. Mr. W. E. D Scott says that it was common in Kanawha County when he collected there with the Hon. Wm. S. Edwards more than thirty years ago.

Nest—The only duck that breeds regularly in our state. The Hon. Andrew Price, of Marlinton, says, "A few years ago it was a common sight to see the Wood Duck with young not able to fly on the Greenbrier River." This species is now becoming quite rare.

Food—Weed seeds, acorns, wild berries, &c.

148. American Scaup Duck (*Marila marila*). A pair. Commonly called "Bluebill."

Geog. Dist.—Northern part of northern hemisphere.

W. Va. Dist.—Mr. T. A. Morgan and other observers have found that this species is far more common along Monongahela and Potomac waters than it is in the southern part of the state.

Nest—Breeds from Manitoba northward to Alaska. Nest on ground.

Food—Mollusks.

163. American Scoter (*Oidemia americana*). This sea-duck is represented in the collection by both male and female.

Geog. Dist.—Coasts and larger lakes of North America.

W. Va. Dist.—Very rare in West Virginia. No positive record.

Nest—Builds nest on ground near water. Found from Labrador northward in the breeding season.

Food—"As a rule, they frequent only the sea and its estuaries, where they live over beds of mussels, clams, or scallops, which they obtain by diving." (Chapman.)

172. Canada Goose (*Branta canadensis*). One specimen is sufficient to represent this species, as the sexes are alike. This is the common "wild goose" often seen in migration seasons.

Geog. Dist.—Temperate North America.

W. Va. Dist.—A rather common migrant.

Nest—Breeds in northern U. S. and British provinces.

Food—Vegetable matter of different kinds.

180. Whistling Swan (*Olor columbianus*). This large white bird must always be distinguished from the Trumpeter Swan which is a much rarer bird.

Geog. Dist.—North America.

W. Va. Dist.—This species has been taken at Buckhannon, Ronceverte, and at other points in West Virginia. Mr. Wm. D. Doan, who wrote Bull. No. 3 of the West Virginia Expt. Sta., "The Birds of West Virginia", records the species from this state.

Nests—Nests on shores of the Arctic Ocean.

Food—Vegetable matter, with some small aquatic animals.

190. American Bittern (*Botaurus lentiginosus*). One specimen. The rich coloring of this fine bird should be especially noticed. Mr. Bradford Torrey says, "The Bittern's fame rests upon its vocal performance, or 'boom' ".

Geog. Dist.—Temperate North America..

W. Va. Dist.—The American Bittern has been seen and taken in many sections of West Virginia.

Nest—Mr. T. Z. Atkeson says, "A common summer resident; breeding in suitable localities in different parts of the state." I have never found the nest of this bird.

Food—Small aquatic animals.

191. Least Bittern (*Ardetta exilis*). A pair of these small bitterns is in our collection. In life they are strange in appearance and stranger still in their actions.

Geog. Dist.—Temperate and tropical America.

W. Va. Dist.—The Morgan brothers say, "Common, and have caught several alive." Mr. Eifrig has reported this species from the Potomac River valley.

Nest—Builds its nest in marshy places. Breeds in eastern U. S.

Food—Snails, slugs, frogs, and other aquatic animals.

194. Great Blue Heron (*Ardea herodias*). An old bird and a young one in the collection show the difference in the plumage of adult and young. This is the species that is so frequently called

"crane". A stately bird, and one that always excites curiosity and arouses interest when seen flying overhead, or hunting for food along some river.

Geog. Dist.—Northern South America northward to the Arctic regions.

W. Va. Dist.—I have found this great bird quite common in August and September along the Ohio River. Mr. Surber says, "Formerly a few bred near Falling Springs (Greenbrier County)."

Nests—Platform of sticks in trees. Breeds locally throughout much of its range.

Food—Fish, frogs, reptiles, small mice, etc.

200. Little Blue Heron (*Ardea caerulea*). The two color phases of this species are most admirably illustrated in the two specimens shown here. Compare with this species other species in the collection that change the form and color of their plumage according to the season, and for various reasons. The color phases of some of these birds are very perplexing.

Geog. Dist.—Tropical and temperate America.

W. Va. Dist.—Mr. Sidney Morgan says, "Very common in July and August, 1901. One remained for a month. None before nor since." (This note refers to the region about Poca, Putnam County, on the Great Kanawha River). Mr. W. E. D. Scott, in his pamphlet on the birds of Kanawha County, says, "Mr. William H. Edwards informed me of the occurrence of this species several times in this vicinity."

Nest—Gathers in colonies and builds nests of sticks in bushes. Breeds in southern U. S.

Food—Aquatic animals.

201. Green Heron (*Ardea virescens*). These are beautiful specimens, and well represent the species.

Geog. Dist.—Tropical and temperate America.

W. Va. Dist.—Very common and reported by almost every bird student who has given attention to our birds.

Nest—Builds its nest in willow trees and other bushes along streams. I have found a number of the nests of this common heron in various parts of our state.

Food—Like that of the other herons mentioned above.

202. Black-crowned Night Heron (*Nycticorax nycticorax naevius*).

Two specimens; adult and young. Notice particularly the long occipital plumes on the adult.

Geog. Dist.—North and South America.

W. Va. Dist.— Prof. S. B. Brown, of the West Virginia University, tells me that in 1895 three of these birds were taken on Decker's Creek. Rare.

Nests—Colonial in breeding season. Nest in tall trees. Breeds throughout greater part of its range.

Food—Frogs, &c.

203. Yellow-crowned Night Heron (*Nycticorax violaceus*). One adult.

Geog. Dist.—Tropical and temperate North America from the Carolinas and lower Ohio valley south to Brazil.

W. Va. Dist.—Exceedingly rare in this state. I have no positive record of its occurrence in West Virginia.

Nest—Breeds throughout the greater portion of its range. Nest much like that of other herons.

Food—As other herons.

208. King Rail (*Rallus elegans*). One adult specimen.

Geog. Dist.—Eastern North America.

W. Va. Dist.—Mr. T. A. Morgan says, "One taken in the spring of 1901 at Poca Bottoms. Found bird with young in spring of 1889. Was common about that time." One taken in the fall of 1901 by A. Sidney Morgan.

Nest—Builds nest on ground in marshy places. See breeding record in quotation from Mr. Morgan given above.

Food—Worms, seeds, etc.

212. Virginia Rail (*Rallus virginianus*). See Mr. Brewster's account of this bird given in Chapman's "Handbook of Birds", p. 142.

Geog. Dist.—North America, from British Provinces south to Gautemala and Cuba.

W. Va. Dist.—The Morgan brothers, who have made such a careful study of the water-fowl of this state, call this rail a rather common species along the Great Kanawha.

Nest—Breeds as far north as Labrador and as far south as Pennsylvania. Nest on ground in marshes.

Food—Insects and vegetable matter.

214. Sora (*Porzana carolina*). Adult and young. The writer remembers very clearly his first experience with this beautiful little bird. In August, 1886, he was passing through a large cornfield on the headwaters of French Creek in Upshur County. Unexpectedly, a very tame chicken-like bird appeared and ran about among the stalks of corn. It was so fearless and so pretty and so strange that the impression it made will never be forgotten.

Geog. Dist.—Temperate North America.

W. Va. Dist.—Mr. Sidney Morgan has told me that it is common in May and June at Poca Bottoms.

Nest—Breeds in northern U. S., and as far north as Hudson Bay. Nest on the ground in marshy places. Surber has one W. Va. breeding record.

Food—Insects and vegetable matter.

218. Purple Gallinule (*Ionornis martinica*). This is a beautiful adult specimen.

Geog. Dist.—South Atlantic and Gulf States.

W. Va. Dist.—Mr. W. S. Edwards reports that he collected a specimen of this richly colored species on Great Kanawha waters some years ago.

Nest—Among rushes near the water. Breeds from southern Illinois southward.

Food—Water insects, &c.

219. Florida Gallinule (*Gallinula galeata*). One specimen, adult. Sexes colored alike.

Geog. Dist.—America, from Brazil and Chili to Canada.

W. Va. Dist.—One was taken at Poca Bottoms by Mr. A. Sidney Morgan in 1907.

Nest—In swampy places, on bed of rushes. Eight to thirteen eggs. Breeds as for north as southern Maine.

Food—Insects and vegetable matter about ponds and marshes.

221. American Coot (*Fulica americana*). This bird is commonly called "mud-hen".

Geog. Dist.—North America from the West Indies to Greenland and Alaska.

W. Va. Dist.—I have found this species to be very common along the Ohio River and other parts of the state.

Nest—Among reeds in fresh water marshes. Eight to fifteen eggs.

Breeds in many places throughout its range. I have no evidence that this species nests in West Virginia.

Food—Aquatic animals and plants.

228. American Woodcock (*Philohela minor*). One specimen. The name of this bird is often given to some of the woodpeckers. Let the student note that all birds in his collection are carefully and correctly named.

Geog. Dist.—Eastern North America north to Labrador and Manitoba.

W. Va. Dist.—Formerly very common in this state. I have been delighted to note evidences, during the past summer, that the bird is again on the increase.

Nest—Breeds in favorable localities in this state. At least three nests of the Woodcock were reported to the writer from various parts of the state last summer.

Food—Earthworms, insects, &c.

230. Wilson's Snipe (*Gallinago delicata*). One specimen; adult.

Geog. Dist.—North and Middle America.

W. Va. Dist.—Reported by Eifrig from near Cumberland, on W. Va. side of the Potomac. The Morgan brothers have found this species to be common along the Great Kanawha.

Nest—Breeds in northern United States.

Food—Insects and vegetable matter.

239. Pectoral Sandpiper (*Pisobia masulata*). One adult.

Geog. Dist.—North America.

W. Va. Dist.—Mr. A. Sidney Morgan has reported to me that he has found this sandpiper to be rather common along the Great Kanawha about Poca Bottoms.

Nest—Breeds in the arctic regions.

Food—Insects.

242. Least Sandpiper (*Pisobia minutilla*). One specimen.

Geog. Dist.—North America.

W. Va. Dist.—Mr. Surber says it is a common fall migrant in Greenbrier County. Mr. T. A. Morgan has reported the species from the Great Kanawha Valley. Wm. D. Doan includes this little sandpiper in his list of West Virginia birds.

Nest—Breeds in the arctic regions.

Food—Insects from meadow and beach.

246. Semipalmated Sandpiper (*Ereunetes pusillus*). One specimen. Note carefully the difference between the feet of the Least Sandpiper and this species.

Geog. Dist.—Eastern North America.

W. Va. Dist.—No positive records for this state.

Nest—Breeds in arctic regions.

Food—Insects and other forms of life along the beach.

254. Greater Yellow-legs (*Totanus melanoleucus*). Two specimens, adult and young.

Geog. Dist.—North America.

W. Va. Dist.—"Common" (Morgan).

Nest—Minnesota and northward. In winter goes as far south as Patagonia.

Food—Insects and worms.

255. Yellow-legs (*Totanus flavipes*). Two specimens. It is interesting to compare this and the former species. Note difference in size.

Geog. Dist.—North America.

W. Va. Dist.—Surber shot a male Yellow-legs in Greenbrier County April 20, 1893. Wm. Brewster records this species from Ritchie County. "More common than Greater Yellow-legs." (Sidney Morgan).

Nest—New York northward to arctic regions.

Food—Insects.

256. Solitary Sandpiper (*Totanus solitarius*). One adult specimen. "This is a wood sandpiper. It is rarely found on the beaches or salt marshes near the sea, but frequents fresh-water ponds, or lakes and woodland streams, both in the lowlands and mountains." (Chapman).

Geog. Dist.—Eastern North America.

W. Va. Dist—On May 23, 1901, Rev. G. Eifrig found the Solitary Sandpiper on the Swamp Ponds, just across the Potomac from Cumberland. In 1874 Mr. Brewster found this species to be quite numerous in Ritchie County. "Very common" (Morgan).

Nest—Breeds in northern U. S. and northward. Nest has rarely been found.

Food—Aquatic insects.

261. Bartramian Sandpiper (*Bartramia longicauda*). One adult specimen. Commonly called "Upland Plover".

Geog. Dist.—Eastern North America.

W. Va. Dist.—Reported by T. A. Morgan, G. Eifrig, and W. D. Doan

Nest—Breeds in temperate North America. "It probably breeds in the state" (Atkeson).

Food—Grasshoppers and beetles.

263. Spotted Sandpiper (*Actitis macularia*). One specimen. This is our most common sandpiper.

Geog. Dist.—Alaska to southern Brazil.

W. Va. Dist.—Very common along all our streams. Equally common along the Ohio River and along the small streams far up in the Alleghenies.

Nest—Breeds commonly throughout its range. Nest along banks of streams, on the ground.

Food—Insects.

273. Killdeer (*AEgialitis vocifera*). This is a well known plover. Common everywhere, and should be known by all.

Geog. Dist.—Temperate North America.

W. Va. Dist.—Common throughout the state. Have observed them at all seasons of the year.

Nest—Nest on the ground in meadows and pastures. I observed the young in May, 1906, in a field near Waverly, West Virginia.

Food—Earthworms, crustaceans, and insects.

274. Semipalmated Plover (*AEgialitis semipalmata*). Two specimens; a pair. Much smaller than the Killdeer, and found along sandy beaches.

Geog. Dist.—Arctic and subarctic America.

W. Va. Dist.—Very rare.

Nest—Breeds from Labrador to the shores of the Arctic Sea.

Food—Insects and crustaceans.

289. Bob-white (*Colinus virginianus*). These two specimens show the very manifest difference in the appearance of the male and female. The Bob-white is one of our most useful birds, and should never be killed wantonly.

BLUE JAY

Order—PASSERES Family—CORVIDÆ
Genus—CYANOCITTA Species—CRISTATA

Geog. Dist.—Eastern North America.

W. Va. Dist.—Common in all parts of the state excepting the higher mountain regions.

Nest —Breeds abundantly. I have seen young birds scarcely able to fly as late as Oct 9th.

Food —Insects, grains, nuts, etc.

300. Ruffed Grouse (*Bonasa umbellus*). This common game bird is represented by two specimens, a male and a female. "Pheasant" is the name applied to this grouse in most sections of West Virginia.

Geog. Dist.—Eastern U. S., and southern Canada.

W. Va. Dist.—Common in the great deciduous forests in the hill region of the state. I have found that this species is rare in parts of the Ohio Valley. It is not at all common in the higher parts of the Allegheny Mountains. In the Yew Mountains (1905) and in the Back Allegheny Mountains (1907) I found very few of these birds.

Nest —Breeds commonly in W. Va. Nest on ground; eggs eight to fourteen.

Food —Insects, berries, seeds, leaves, and leaf-buds.

310. Wild Turkey (*Meleagris gallopavo*). We are exceedingly fortunate in having in the collection a pair of these magnificent game-birds. Note carefully how the male and female differ, and observe the chestnut-colored tips to the feathers of tail and upper tailcoverts. In domestic turkeys these tips are white. The domestic turkey is descended from the Mexican Turkey, a wild species found in Texas, Arizona, and Mexico. It was this latter species that was domesticated by the ancient Mexicans.

Geog. Dist.—Eastern U. S. from Pennsylvania southward.

W. Va. Dist.—Once abundant in this state. Now quite rare, though generally distributed in the mountains. This great bird will soon become extinct in W. Va., if forest destruction continues at the present rate.

Nest —Makes its nest on the ground. Eggs, ten to fourteen. Breeds in W. Va.

Food —Grasshoppers, nuts, etc.

316. Mourning Dove (*Zenaidura macroura carolinensis*). Male and female.

Geog. Dist.—North America.

W. Va. Dist.—Common all over the state. I have seen seventy-five

in one flock, though this species is usually seen flying about in pairs or in flocks of four or five.

Nest—A platform of sticks on stump, tree, or fence. Breeds abundantly in W. Va.

Food—Insects, grain, and seeds.

325. Turkey Vulture (*Cathartes aura septentrionalis*). One adult. This is the only vulture found in this part of the United States. Commonly called "Turkey Buzzard."

Geog. Dist.—Temperate North America.

W. Va. Dist.—Common in central, southern, and eastern West Virginia. During four years residence in the Ohio valley, near Parkersburg, I did not see a Turkey Vulture. Now becoming much more rare than formerly in central W. Va. Mr. Brewster, in his "Some Observations on the Birds of Ritchie County, West Virginia" (Ann. Lyc. Nat. Hist. N. Y. 1875, p. 145) gives a very interesting note on the disappearance of these scavenger birds of prey from Ritchie County.

Nest—In hollow stump or on the ground. One to three eggs. I found these birds on the top of Spruce Knob, the highest elevation in the state, in June, 1908, and presume they were breeding there.

Food—Decaying animal matter.

331. Marsh Hawk (*Circus hudsonius*). Two specimens, male and female. The observer should notice the white upper tail-coverts which are characteristic of this species.

Geog. Dist.—North America in general.

W. Va. Dist.—Often observed in this state. I have seen a number of specimens taken in various parts of West Virginia. For a W. Va., record, see Fisher's "Hawks and Owls of the United States", p. 31.

Nest—Builds its nest on the ground in marshes. Four to six eggs.

Food—Mice, shrews, reptiles, small birds, and rarely poultry.

332. Sharp-shinned Hawk (*Accipiter velox*). A pair. A small swift-winged bird of the woods and open fields.

Geog. Dist.—North America in general.

W. Va. Dist.—Quite common.

Nest—Builds its nest in trees. I found this species nesting in the Yew Mountains in August, 1904.

Food—Small birds, a few mice and insects.

333. Cooper's Hawk (*Accipiter cooperii*). Adult and young. This species is to be carefully distinguished from the preceding.

Geog. Dist.—British America south to southern Mexico.

W. Va. Dist.—Tolerably common.

Nest.—In trees twenty-five to fifty feet from the ground.

Food.—This is one of our most harmful hawks as it feeds largely on poultry and small birds.

337. Red-tailed Hawk (*Buteo borealis*). Adult and young. One of the most common of our large hawks.

Geog. Dist.—Eastern North America.

W. Va. Dist.—Very common in the Ohio Valley and in other portions of the state.

Nest.—Builds nest in tall trees.

Food.—Of 562 stomachs examined by the U. S. Dept. of Agriculture, only 54 contained poultry or game birds. 278 contained mice.

339. Red-shouldered Hawk (*Buteo lineatus*). Adult and young.

Geog. Dist.—Eastern North America, from Nova Scotia southward.

W. Va. Dist.—Found in many sections of the state. Scott says this hawk was quite common in Kanawha County when he collected there.

Nest.—I have found this species nesting on the waters of French Creek in Upshur County. Nests in tall trees.

Food.—Feeds largely on mice, other mammals, reptiles, batrachians, and insects.

343. Broad-winged Hawk (*Buteo platypterus*). Adult and young.

Geog. Dist.—Eastern North America.

W. Va. Dist.—Common throughout the state. I have collected a number of these hawks.

Nest.—Nests in tall trees as most hawks do.

Food.—Insects, mice, reptiles, batrachians, birds.

352. Bald Eagle (*Haliaeetus leucocephalus*). Not "bald", but white-headed. This is the bird of our country, and every child in the state should know the habits and appearance of this noble bird.

Geog. Dist.—North America.

W. Va. Dist.—I have observed this species in Upshur and Kanawha Counties, and it has been reported many times from other portions

of the state. Mr. Eifrig found the Bald Eagle in the "Eastern Panhandle."

Nest—Breeds throughout its North American range. Places its nest in a tall tree, and lays two or three dull white eggs.

Food—The Bald Eagle subsists principally upon fish.

356. Duck Hawk (*Falco peregrinus anatum*). One adult.

Geog. Dist.—North America and the greater part of South America.

W. Va. Dist.—Found by Doan and Surber. Rare in W. Va.

Nest—Builds nest on rocky cliffs and in hollow limbs of tall trees.

Food—Some poultry, game birds, and other birds. A few insects.

357. Pigeon Hawk (*Falco columbarius*). Two of these beautiful little hawks, an adult and a young bird, are to be found in the collection.

Geog. Dist.—The whole of North America and northern South America.

W. Va. Dist.—Of rare occurrence in this state.

Nest—In trees and on cliffs.

Food—Small birds, mice, and insects.

360. American Sparrow Hawk (*Falco sparverius*). A pair. Note the beautiful colors of this hawk.

Geog. Dist.—From Great Slave Lake to Northern South America.

W. Va. Dist.—Common throughout the state.

Nest—Constructs its nest in a hole in an old tree. Three to seven eggs.

Food—Small birds, mice, and insects.

364. American Osprey (*Pandion haliaetus carolinensis*). One adult.

Geog. Dist.—From Hudson Bay and Alaska south to northern South America.

W. Va. Dist.—I have observed this bird a number of times in various places in the state, and it has been reported by others.

Nest.—In trees or on the ground. I have no evidence of its breeding in our state.

Food—Its food consists solely of fish which, as a rule, it captures alive.

365. American Barn Owl (*Aluco pratincola*). One adult. This strange looking creature may be recognized wherever it is seen.

Geog. Dist.—Southern part of the U. S. and Mexico.

W. Va. Dist.—Rare in West Virginia. I have never seen this bird alive within this state.

Nest—Builds nest in a tower or in a tree.

Food—Mice and other mammals with a few birds and insects.

366. American Long-eared Owl (*Asio wilsonianus*). One adult.

Geog. Dist.—Temperate North America.

W. Va. Dist.—Mr. Doan includes this species in his list of W. Va. birds.

Nest—Generally uses an old crow's, hawk's, or squirrel's nest.

Food—"This Owl is preeminently a mouser". (Fisher).

368. Barred Owl (*Strix Varia*). One adult.

Geog. Dist.—Eastern United States.

W. Va. Dist.—One of our most common owls. Reported from many sections of the state. Often seen and heard high up in the mountains.

Nest—Usually in a hollow tree.

Food—"Of 109 stomachs examined, 5 contained poultry or game; 13, other birds; 46, mice; 18, other mammals; 4, frogs; 1, a lizard; 2, fish; 14, insects; 2, spiders; 9, crawfish; and 20 were empty" (Fisher).

372. Saw-whet Owl (*Glaux acadicus*). This fine little specimen should be carefully noted. It has no "horns" as the Screech Owl has.

Geog. Dist.—North America at large.

W. Va. Dist.—Found within this state only in the winter season. I have heard, two or more times, of the occurrence of this little owl in West Virginia, but I have never taken it.

Nest—Lays three to five eggs in a hole in a tree or in a deserted woodpecker's or squirrel's nest. Breeds from northern New York northward.

Food—"Of 22 stomachs examined, 17 contained mice"(Fisher).

373. Screech Owl (*Otus asio*). Two specimens showing the mysterious "red phase" and "grey phase" of this familiar little owl. Both phases are some times represented in the same brood. These color phases are not dependent upon age, sex, or season.

Geog. Dist.—Temperate eastern North America.

W. Va. Dist.—Abundant in many localities. Often heard about towns as well as in lonely country places.

Nest—Generally in a hollow tree. Often breeds in West Virginia.

Food—Feeds on mice, insects, and small birds. About towns they are said to destroy great numbers of English Sparrows.

375. Great Horned Owl (*Bubo virginianus*). One Adult. Readily identified by its size and the very large ear-tufts.

Geog. Dist.—From Labrador to Costa Rica, in eastern North America.

W. Va. Dist.—Rather common in our state.

Nest—Often in an old hawk's, crow's, or squirrel's nest.

Food—Of 127 stomachs examined by Dr. A. K. Fisher, only 31 contained poultry or game birds; 78 contained small mammals of various kinds.

387. Yellow-billed Cuckoo (*Coccyzus americanus*). One specimen. Sexes alike. Note very carefully the color of the bill in the two species of cuckoos.

Geog. Dist.—Eastern temperate North America.

W. Va. Dist.—Rather common in most parts of this state.

Nest—Rev. W. E. Hill found this species breeding at Fairview, West Virginia, in June, 1883.

Food—Tent caterpillars and other insects.

388. Black-billed Cuckoo (*Coccyzus erythrophthalmus*). One specimen. Adult.

Geog. Dist.—Eastern North America.

W. Va. Dist.—J. Warren Jacobs in his pamphlet entitled "Summer Birds of Monongalia County, West Virginia" says that he found this species in abundance in Monongalia County on May 31, 1895. Common in all parts of the state.

Nest—Often builds its nest in apple trees. Our American cuckoos are not dependent upon other birds to hatch their eggs and to care for their young as is the European Cuckoo.

Food—Caterpillars and other insects..

390. Belted Kingfisher (*Ceryle alcyon*). Two specimens, male and female. Notice the rufous coloring on the sides and on the belly of the female.

Geog. Dist.—North America, from the Arctic Ocean to Panama.

W. Va. Dist.—Common along all streams.

Nest—In a hole in a bank, about six feet from the entrance. Has been found nesting many places in West Virginia.

Food—Fish.

393. Hairy Woodpecker (*Dryobates villosus*). A pair of these common woodpeckers show this species to good advantage.

Geog. Dist.—Eastern United States, from the Carolinas northward.

W. Va. Dist.—Dr. Rives found this bird not uncommon in the great "Spruce belt" (AUK, 1898, p. 131). Common throughout our state.

Nest—Jacobs found this bird with young in Monongalia Co. Common breeder.

Food—Tree-haunting insects.

394. Downy Woodpecker (*Dryobates pubescens*). These two specimens will enable any observer to distinguish between the male and the female of this common species. As may be noted, the male has the red nape, but the female, similar in other markings, is without the scarlet nape.

Geog. Dist.—Eastern North America, from Labrador to Florida.

W. Va. Dist.—Very common in most parts of this state. Dr. Rives observed this species but once or twice while on his visit to the West Virginia spruce belt. I have not found it very common in the mountainous section of West Virginia, though it is so generally distributed elsewhere in the state.

Nest—In holes in trees. Eggs, four to six. A common breeder in W. Va.

Food—Tree-haunting insects. Feeds some times on the pupa of the codling moth. The Downy is a very useful bird.

395. Red-cockaded Woodpecker (*Dryobates borealis*). One female. This is an exceedingly interesting specimen. Look up this species.

Geog. Dist.—"*Borealis*", the specific name of this bird is a misnomer. It is not a northern bird, but is found only in the southern part of the United States.

W. Va. Dist.—Very rare.

Nest—"In the higher part of a pine tree" (Chapman).

Food—Insects that frequent pine woods.

402. Yellow-bellied Sapsucker (*Sphyrapicus varius*). A pair of adults and a young bird.

Geog. Dist.—Eastern North America.

W. Va. Dist.—In the greater part of the state this species occurs as a common migrant in spring and fall. The writer found this species in great numbers in the Spruce Mountains last summer (1908), and one nest was found.

Nest—In dead tree.

Food—Juices of trees and insects.

405. Pileated Woodpecker (*Phloeotomus pileatus*). A pair of these large woodpeckers will be found in the collection. This is the species to which the name "woodcock" is so often given. For a description of the American Woodcock see No. 228.

Geog. Dist.—Heavily wooded regions of North America. Now becoming almost extinct in many places.

W. Va. Dist.—This fine bird is still quite common in nearly all sections of the state. In Upshur County and in the surrounding counties, where the deciduous forests still stand in considerable acreage, the Pileated Woodpecker may be found in almost every tract of wood-land. Occasionally observed in the mountains. I saw a single bird of this species at Horton, June 16, 1908.

Nest—In dead tree twenty-five to eighty feet from the ground. Breeds in West Virginia.

Food—Wood-boring larvae and other insects.

406. Red-headed Woodpecker (*Melanerpes erythrocephalus*). A pair. This most beautiful species is worthy of careful study.

Geog. Dist.—Eastern North America.

W. Va. Dist.—Very common throughout the state. Rare in winter. However, I have found large numbers of them spending the winter in some sheltered wood-land in at least two places in this state.

Nest—In a hole in dead tree.

Food—Insects, fruit, and corn that is "in the milk".

409. Red-bellied Woodpecker (*Melanerpes carolinus*). This is sometimes called the "Guinea Woodpecker". The observer will notice the origin of the name in the color and markings of the bird.

Geog. Dist.—Eastern United States, more common toward the south.

W. Va. Dist.—Very common in some places, rare at other points. Not often observed in the mountains. Because of the irregular distribution of this species and its inclination to keep in the tops of forest trees, it is not so well known as some of the other members of this family.

Nest—In some dead forest tree.

Food—Insects.

412a. Northern Flicker (*Colaptes auratus luteus*). Represented by two specimens, a male and a female. Note the difference in the sexes.

Geog. Dist.—Eastern and northern North America, south to North Carolina.

W. Va. Dist.—Abundant in all parts of the state.

Nest—In hole in dead tree. Five to nine beautiful white eggs.

Food—Termites, ants and other insects, fruit, etc.

416. Chuck-will's-widow (*Antrostomus carolinensis*). One adult. We are fortunate in having a specimen of this large southern goat-sucker.

Geog. Dist.—South Atlantic and Gulf States, south to Central America.

W. Va. Dist.—But one record for this species in West Virginia. Mr. Thad. Surber reports that he examined a specimen, on Apr. 22, 1897, that had been picked up on the streets of Lewisburg, Greenbrier County. Just here it is in place to say that rare southern species are likely to be observed at any time along the waters of the New River and in adjacent sections. Quite naturally both animals and plants follow down that stream from the Carolinas, until they are beyond their usual habitat. I would urge upon persons who live in the southern parts of the state to be on the look-out constantly for rare species from farther south.

Nest—Two eggs placed on the leaves or on the bare ground.

Food—Aerial insects and, sometimes, small birds.

417. Whip-poor-will (*Antrostomus vociferus*). One specimen only is needed in the collection to represent this common species, as male and female are nearly alike in their markings.

Geog. Dist.—Eastern North America to the plains.

W. Va. Dist.—Generally common. Not often heard on the low valley bottom-lands along the Ohio River. Rare in the higher elevations. Common elsewhere.

Nest—Eggs placed on leaves or on the ground, with no effort at nest-building.

Food—Nocturnal insects.

420. Nighthawk (*Chordeiles virginianus*). Male and female. It is most earnestly hoped that these specimens, with the one Whip-poor-will, may help in clearing up the endless confusion of these two kinds of birds. The Nighthawk is often seen flying about on late summer evenings in great numbers, and is frequently called "Bull-bat". The Whip-poor-will does not come out in the open as the Nighthawk does. The two species should be readily distinguished, even by the casual observer, by the very different notes. The coloring, too, is quite different. Note the difference in the shape of the tail in the two species.

Geog. Dist.—Northern and eastern North America, west to the Great Plains and central British Columbia, and from Labrador south through tropical America to the Argentine Republic.

W. Va. Dist.—Common, especially in August and early September when they pass through this section on their autumn migration flights.

Nest—No nest. Eggs laid on bare ground, on a stone, or, sometimes, on the roof of a house. I found a nest of this species at one time in Upshur County. In the mountains these birds are heard frequently in the breeding season. Though I searched very carefully one day last summer for a nest on the summit of Spruce Knob, Pendleton Co., I failed to find one.

Food—Flying insects.

423. Chimney Swift (*Chaetura pelagica*). One adult. These birds do not belong to the Swallow family, though they are called "Chimney Swallows" by many people. Structurally, they are unlike swallows.

Geog. Dist.—Eastern North America from the Fur Countries to Cozumel Island.

W. Va. Dist.—One of our most abundant birds. In "Summer Birds of the West Virginia Spruce Belt" (AUK, Vol. XV, 1898, p. 135) Dr. Rives says, "Occasionally observed". Not very common in the mountainous districts.

Nest—In a chimney or hollow tree.

Food—Insects. Very useful birds.

428. Ruby-throated Hummingbird (*Trochilus colubris*). A pair.

Geog. Dist.—Eastern North America as far north as the Fur Countries.

W. Va. Dist.—Very common. Though there are about five hundred species of hummingbirds in North and South America, this is the only species that ever comes into this part of the United States.

Nest—A beautiful nest of plant down, fibers, and lichens saddled on a limb, frequently an apple limb. Difficult to find the nest of this species. Two white eggs.

Food—Honey from flowers and minute insects.

444. Kingbird (*Tyrannus tyrannus*). Male and female. The male is so mounted that its usually concealed orange-red crest may be seen. This is the bird that is often called "Bee-bird" or "Bee-martin".

Geog. Dist.—North America, most common east of the Rockies.

W. Va. Dist.—One of the common birds of our fields and orchards.

Nest—Usually in apple trees. Nests easily found.

Food—The Kingbird some times feeds on bees, but it destroys enough harmful insects to clear its record.

452. Crested Flycatcher (*Myiarchus crinitus*). One adult. Sexes alike.

Geog. Dist.—Eastern United States and southern Canada.

W. Va. Dist.—A very common bird in all sections of the state where there are large tracts of deciduous woodland.

Nest—In hollow tree. One peculiarity in the nest-building of this bird is to be found in its selection of a piece of cast-off snake skin for building material. A nest is rarely found without this uncanny thing in its walls.

Foods—Insects. (See Bull. 110, W. Va. Agr. Expt. Sta., p. 28. for interesting note on the food habits of this flycatcher).

456. Phoebe (*Sayornis phoebe*). One adult. Sexes alike. Some times called "Pewee".

Geog. Dist.—Eastern North America.

W. Va. Dist.—Common throughout the state.

Nest—Made of mud and moss, and placed on a beam or rafter or rock ledge.

Food—Winged insects.

461. Wood Pewee (*Myiochanes virens*). One adult.

Geog. Dist.—Eastern North America, from Florida to Newfoundland.

W. Va. Dist.—Common in nearly all sections of the state. It usually makes its presence known by its clear whistling notes.

Nest—Saddled across the limb of some forest tree, twenty to forty feet up. Breeds commonly in West Virginia.

Food—Forest insects, such as fly about in dark woods.

463. Yellow-bellied Flycatcher (*Empidonax flaviventris*). One specimen.

Geog. Dist.—Eastern North America, breeding from northern states to Labrador. Casual in Greenland.

W. Va. Dist.—This species has been recorded but twice from the state. The writer has never seen a living specimen in West Virginia.

Nest—On the ground in northern spruce forests.

Food—Insects.

467. Least Flycatcher (*Empidonax minimus*). One specimen. Sexes alike. From this series of our smaller flycatchers, the student may observe how little difference there is in either size or coloring. This group of birds brings many perplexities to even an advanced student of bird-life.

Geog. Dist.—Chiefly eastern North America.

W. Va. Dist.—Rather common in the migration seasons. Of late I have found some evidence of the breeding of this species in our state. In June (1908) I found a number of these little birds at the base of Spruce Knob, Pendleton County.

Nest—In the crotch of a tree a few feet from the ground.

Food—Flying insects.

474b. Prairie Horned Lark (*Otocoris alpestris praticola*). Two specimens.

Geog. Dist.—This subspecies is found in the upper Mississippi Valley and eastward through New England and the Central States.

W. Va. Dist.—A new-comer into W. Va. Within the past ten years this bird has extended its range into nearly all parts of our state. Now breeds in many of our counties.

Nest—Made of grass on the ground.

Food—About 80 per cent of the food is vegetable matter consisting of grains, weed seeds, and fruits. The remaining 20 per cent consists of animal food—mostly insects.

477. Blue Jay (*Cyanocitta cristata*). One specimen of this beautiful bird is quite enough to exhibit his rich blue plumage. Male and female colored alike.

Geog. Dist.—Eastern North America to the Plains, and from the Fur Countries south to Florida and eastern Texas.

W. Va. Dist.—Rare along Ohio Valley. In some places quite common, though the abundance or rarity of this species in any given place varies greatly from year to year. More common in the rougher parts of the state.

Nest—Nest made of rootlets in a tree crotch fifteen to twenty feet up. Breeds in this state.

Food—Of miscellaneous nature consisting of fruits, nuts, seeds and insects. In June (1908) I found this species feeding on great quantities of the bright red fruit of the Mountain Elder.

488. American Crow (*Corvus brachyrhynchos*). One specimen of this well-known bird.

Geog. Dist.—North America, from the Fur Countries to the southern border of the United States.

W. Va. Dist.—Common. Along the Ohio River this species sometimes gathers in large flocks to spend the winter months.

Nest—A coarse affair made of sticks in a tree about thirty feet from the ground.

Food—Omnivorous in its feeding habits. It is believed that the food of this bird is such that, on the whole, it must be placed on the list of beneficial birds. For elaborate notes on the food of the American Crow see bulletin No. 6, Dept. Agr., Div. Ornithology and Mammalogy, "The Common Crow of the United States," by Barrows and Schwarz, 1895.

494. Bobolink (*Dolichonyx oryzivorus*). A pair of these pretty birds appears in the collection.

Geog. Dist.—Eastern North America, west to Montana.

W. Va. Dist.—For many years I looked for Bobolinks in central West Virginia, but failed to find them. Finally in the early 90's, I saw five birds of this species on the grounds of the West Virginia

Wesleyan College at Buckhannon. Since that time I have observed the species many times, most frequently in Wood and Marshall Counties. Large flocks of these birds have been reported from the eastern and southern parts of the state during migration seasons.

Nest—Grassy nest on the ground. There are no breeding records for West Virginia.

Food—Seeds, grains and insects.

495. Cowbird (*Molothrus ater*). The pretty black and brown colors of these common birds are to be seen in the male and female specimens.

Geog. Dist.—United States, from the Atlantic to the Pacific.

W. Va. Dist.—Very common in the summer time. For awhile, however, in mid-summer, these birds are strangely absent. In the autumn they gather in large flocks as they prepare to go on their southward migration flights. Occasionally this bird may be seen in mid-winter.

Nest—This bird builds no nest, but always lays its eggs in the nest of some smaller bird.

Food—Insects and seeds. Watch these birds following the cows out in the fields and see them catching the insects that the cows stir up.

498. Red-winged Blackbird (*Agelaius phoeniceus*). The very marked difference between the male and female is shown by these two specimens. When the male flies the bright red shoulder marks are most beautifully displayed. The young birds are colored much as the female is.

Geog. Dist.—North America in general, from Great Slave Lake south to Costa Rica.

W. Va. Dist.—One of the most common birds along the streams in the more developed parts of the state. Abundant along the larger rivers. In the glades about Cowen, I have found these birds breeding in large numbers.

Nest—In low bushes or reeds. Breeds commonly in West Virginia.

Food—Fruits, insects, grains.

501. Meadowlark (*Sturnella magna*). Male and female.

Geog. Dist.—Eastern United States and southern Canada to the Plains.

W. Va. Dist.—Very common in cultivated sections. Sometimes spends the winter here.

Nest—Nest made of grasses and placed on the ground. Mr. Frank M. Chapman speaks of the nest as being very hard to find. Four to six spotted eggs.

Food—Insects and seeds.

506. Orchard Oriole (*Icterus spurius*). Male, female, and young. The male does not have its rich chestnut and black colors till the third year. About as common as the Baltimore Oriole, but not so often seen. As the name implies, it is found about orchard trees.

Geog. Dist.—Eastern United States, as far north as New England.

W. Va. Dist—Generally distributed throughout the state where the altitude is under 2,000 ft.

Nest—Breeds in W. Va. wherever found. I have found a great many nests of this species in fruit trees in Wood, Upshur and Lewis Counties. Look out for the song of this accomplished musician.

Food—Insects.

507. Baltimore Oriole (*Icterus galbula*). A pair. Named for Lord Baltimore who is said to have dressed in orange and black. Chapman says, "Sometimes Nature, as if to remind us of the richness of her stores, sends from the tropics a gaily attired bird who seems quite out of place among the more soberly clad inhabitants of northern climes. The genus *Icterus* contains nearly forty species, all more or less brightly dressed in orange, yellow, and black, but not one is more beautiful than our Baltimore Oriole." Known by almost every one who is at all familiar with our birds.

Geog. Dist.—Eastern United States as far north as Ontario and Manitoba.

W. Va. Dist.—Very common outside the mountain districts.

Nest—Pensile, in fruit or shade trees. Eggs, four to six. Very common breeder in most parts of the state.

Food—Destroys some fruit. 83 per cent of the oriole's food is animal matter, caterpillars forming 34 per cent of the whole. "It may be ranked as one of the chief friends of the orchardist and forester." (Forbush).

509. Rusty Blackbird (*Euphagus carolinus.*) Male and female. This is only a transient visitant in this state, and is less known than any of the other blackbirds that come to West Virginia.

Geog. Dist.—Eastern North America, west to Alaska and the Plains. Breeds from New England northward.

W. Va. Dist.—Seen occasionally in the spring and fall. I have observed a number of flocks of this Blackbird at French Creek, Upshur County.

Nest—In coniferous trees or on the ground. Little is know of this northern Blackbird in its breeding region.

Food—Grains, seeds, insects. Not of economic importance in this state.

511. Purple Grackle (*Quiscalus quiscula*). Male and female. Not common in the region of the state that lies west of the Alleghenies.

Geog. Dist.—East of the Alleghenies from Georgia to Massachusetts.

W. Va. Dist.—Common only in the eastern part of the state.

Nest—Breeds in colonies. Nests placed high up in trees.

Food—Somewhat destructive to corn and other grains. Yet Forbush says, "Crow Blackbirds ***** are indespensible because of the vast amount of insects they destroy."

511b. Bronzed Gackle (*Quiscalus quiscula aeneus*). One adult. The more western form of the Crow Blackbird.

Geog. Dist.—From Alleghenies to Rocky Mountains, north to Great Slave Lake.

W. Va. Dist.—Common in all parts of the state west of the mountains. Not so common, however, in the higher sections. Dr. Rives says that specimens which he examined from the mountainous sections of the state seemed to be intermediate between the typical species and *aeneus*.

Nest—Nesting habits the same as in the last.

Food—Insects, grains, and fruits.

517. Purple Finch (*Carpodacus purpureus*). Male and female. For beautiful colored plates of this and many other species of birds, address the National Association of Audubon Societies, 141 Broadway, New York City. The Purple Finch is roving in disposition, and is not often seen except by one who knows just where to find it. The plumage is not purple, but rosy. A very good songster. Eugene P. Bicknell says, "The song bursts forth as if from some uncontrollable stress of gladness, and is repeated uninterruptedly over and over again, while the ecstatic bird rises high into the air, and, still singing, descends into the trees."

BALTIMORE ORIOLE

(Upper Figure, Male; Lower Figure, Female)

Order—Passeres
Genus—Icterus
Family—Icteridæ
Species—Galbula

Geog. Dist.—Eastern North America, from the Atlantic States to the Plains.

W. Va. Dist.—Mr. Surber, in notes sent to the Biological Survey, Dept. of Agriculture, Washington, D. C., says, "A rare resident near White Sulphur Springs. May breed." Very common throughout the state in the migrating seasons. I believe, with Mr. Surber, that this species breeds in the mountain districts of W. Va. On the 17th of last June (1908), I saw several Purple Finches at Osceola, Pocahontas County. In the summer time I have noted this species in "The Pines", a black spruce forest about six miles above Pickens, in Randolph County.

Nest—In coniferous tree, five to thirty feet up. Eggs, four to six; blue, spotted about the larger end with fuscous.

Food—Often devours buds and fruit blossoms, though this pruning or cutting of buds, blossoms, or seeds of trees is not ordinarily excessive. Forbush says, "This bird eats many of the seeds of the most destructive weeds, ragweed being a favorite. The Purple Finch also destroys many orchard and woodland caterpillars. It is particularly destructive to plant lice and cankerworms."

521. American Crossbill (*Loxia curvirostra minor*). A pair. The curved mandibles of this little finch are to be particularly noted.

Geog. Dist.—Northern North America, and southward along the Alleghenies.

W. Va. Dist.—Rare. Mr. T. J. Fryc, who is well acquainted with this little bird in northern Pennsylvania, says, "Saw 30 in a flock on Bull Creek (near Waverly) in winter of 1904 or 1905."

Nest—In coniferous trees. Nest is built very early in the spring.

Food—Seeds of cone-bearing trees.

English Sparrow (*Passer domesticus*). Male and female. This alien species was introduced into America in 1851 or 1852. However, it did not spread over the country till after 1870. Becoming a great pest. It has been estimated that a single pair of these prolific birds might multiply until, in ten years, their progeny would number 275,176,983,698!

Geog. Dist.—"Nearly the whole of Europe, extending eastward to Persia and Central Asia, India, and Ceylon" (Sharpe). Introduced into America, Australia, and New Zealand.

W. Va. Dist.—Found in all sections of the state.

Food—Forbush says it is one of the few species that deserve no

consideration at the hands of the farmers. Generally harmful. Destroys some insects, but not enough to amend its other evil habits.

529. American Goldfinch (*Astragalinus tristis*). Male and female. In the winter the male assumes somber colors similar to those of the female and young.

Geog. Dist.—Temperate North America, east of the Rocky Mountains.

W. Va. Dist.—Abundant everywhere and at all seasons, though not quite so common in winter. I have found this species particularly common in the mountainous portions of the state.

Nest—Builds its nest rather late in the summer. Often chooses orchard or shade trees as nesting site. Three to six pale bluish white eggs. A common breeder in West Virginia.

Food—Weed seeds, especially those that are furnished with down, as the dandelion and thistle. Many insects. It has been recorded that the Goldfinch sometimes feeds on the Hessian fly. Destroys millions of plant lice eggs.

540. Vesper Sparrow (*Pooecetes gramineus*). Male and female. Often called "Grassfinch" or "Bay-winged Bunting". A songster of unusual ability.

Geog. Dist.—Eastern North America to the Plains, from Nova Scotia and Ontario southward.

W. Va. Dist.—Not at all common on Ohio River bottoms. Elsewhere in the state, with the exception of some of the highest parts, I have found this delightful bird in abundance. To be looked for in old pasture fields.

Nest—Builds nest on the ground. Spotted eggs.

Food—Grasshoppers form the principal food in mid-summer. Insects of many kind are destroyed by this bird. Weed seeds also enter into its bill of fare.

542a. Savanna Sparrow (*Ammodramus sandwichensis savanna*). Male and female.

Geog. Dist.—Eastern United States, northward.

W. Va. Dist.—Very rare in our state. Only one record so far as the writer can determine.

Nest—On the ground.

Food—Beetles, ants, and cut-worms. Destroys some weed seeds.

546. Grasshopper Sparrow (*Coturniculus savannarum australis*). Pair. So named because of its grasshopper-like song. A bird of quiet and unobtrusive ways. The student must look for this species in meadow-lands and along the road-sides. Not generally known, even by those who have a fair knowledge of our common birds.

Geog. Dist.—Eastern United States and Southern Canada.

W. Va. Dist.—Abundant along all our larger river bottoms, particularly along the Ohio. Abundant in the Preston County Glades. Common about Buckhannon.

Nest—Well concealed on the ground.

Food—No cultivated fruit; some seeds. Very destructive to cut-worms, army worms, wire-worms, click beetles, weevils, and grasshoppers.

547. Henslow's Sparrow (*Ammodramus henslowii*). Two, male and female.

Geog. Dist.—Eastern United States.

W. Va. Dist.—Very rare in this state.

Nest—On the ground; made of grasses.

Food—Insects and seeds.

554. White-crowned Sparrow (*Zonotrichia leucophrys*). One adult. This is one of our rare migrant sparrows, and, in life, is very beautiful. Few birds have a more stately manner and dignified bearing. The observer is very fortunate who, on some morning in October, sees this sparrow on its way toward the south.

Geog. Dist.—North America at large, breeding chiefly in the Rocky Mountains.

W. Va. Dist.—Occasionally seen in spring or fall while migrating. Mr. Ernest Ingersoll saw a White-crowned Sparrow in Ritchie County on May 10, 1874 (See Forest and Stream, Vol. IV, p. 358.)

Nest—On the ground or in low bush. Breeding range far to the north.

Food—Insects and seeds.

558. White-throated Sparrow (*Zonotrichia albicollis*). Male and female. Far more common than the preceding species, though this bird is seen only in the spring and fall migration seasons. Often called "Peabody-bird" because of the syllables of its song. A good singer.

Geog. Dist.—Chiefly eastern North America, west to the Plains, north to Labrador and the Fur Countries.

W. Va. Dist.—Of common occurrence in October and April. At times it becomes very abundant, and is to be seen in large flocks about briar fields and in open woodland.

Nest—On the ground or in bushes. Breeds in the northern states and northward as far as Labrador.

Food—Dr. Judd says that ragweed seed constitutes 45 per cent of their food in October. Very fond of the seeds of polygonum.

560. Chipping Sparrow (*Spizella passerina*). Male and female. This is a well-known bird.

Geog. Dist.—Eastern North America, west to the Rocky Mountains, north to Great Slave Lake and Newfoundland, and south to Mexico, breeding from the Gulf States northward.

W. Va. Dist.—Very common about all farms, orchards, and even within the towns and cities.

Nest—The nesting habits of this little bird are known to all. Eggs four or five, bluish with black markings.

Food—Weed seeds, especially crab grass and dandelion seeds; occasionally a little fruit; many insects. The Chippy feeds very largely in the spring and early summer on small caterpillars. One observer saw a Chipping Sparrow eat 54 canker-worms at one sitting. Particularly fond of such destructive species as the gipsy and brown-tail caterpillars; codling moth, tent caterpillar, forest tent caterpillar, and currant worms; devours three species of larvæ that feed on cabbage plants.

563. Field Sparrow (*Spizella pusilla*). Male and female. This species must be carefully distinguished from the preceding. A bird of old fields and woodland. In musical ability it far exceeds its more domestic cousin, the Chippy. Indeed, of all the good singers in the large sparrow family, there are few that surpass this plain little bird in sweetness of song.

Geog. Dist.—Eastern United States and Southern Canada.

W. Va. Dist.—Common in every part of the state that the writer has visited, excepting the higher mountain regions.

Nest—On the ground or in low bushes. A favorite nesting place in this section is in a bunch of Virginia Beard-grass ("Broomsedge").

Food—Weed seeds in great abundance. Destroys many May flies, leaf hoppers, and sawflies.

567. Slate-colored Junco (*Junco hyemalias*). Male and female. Commonly called "Snow bird".

Geog. Dist.—North America, chiefly east of the Rocky Mountains.

W. Va. Dist.—Common in winter. In the mountains of the state the Carolina Junco (*Junco hyemalis carolinensis*), a sub-species that is very similar to the Slate-colored Junco, may be found breeding in great abundance. On the highest mountain in W. Va., Spruce Knob, the Carolina Junco nests in considerable numbers.

Nest—On or near the ground. The Carolina Junco prefers to place its nest among the roots of an up-turned black spruce tree. However, on the top of Spruce Knob, all the nests that were found were placed in a sheltered spot on the ground. Evidently the nests were thus placed that they might have greater protection from the winds that blow almost constantly in such high and exposed places. Eggs, four or five, white or bluish white with small spots of rufous-brown.

Food—Mostly pernicious weed seeds.

581. Song Sparrow (*Melospiza melodia*). Male and female. This bird may be known by his black "breat pin".

Geog. Dist.—Eastern United States to the Plains, breeding from Virginia northward to the Fur Countries.

W. Va. Dist.—Perhaps no other species is more generally distributed within our state. Especially common along streams. In abundance along the Elk, Great Kanawha, and Ohio Rivers. In the Webster County glades I found it to be one of the most common species. In August, 1906, I found this species breeding high up in the Back Allegheny Mountains.

Nest—One summer I found two nests of this species. The first was in a depression in the ground, at least six inches in depth; the second was on top of a board fence where wild fox grape vines had grown into a cluster thus supporting the nest that was saddled on the top-most board of the fence.

Food—Many weed seeds such as the polygonum, crab grass, and pigeon grass. Harmful insects, such as caterpillars and plant lice, make up 18 per cent of the food.

584. Swamp Sparrow (*Melospiza georgiana*). A pair. A quiet and elusive species.

Geog. Dist.—Eastern North America and as far north as Labrador.

W. Va. Dist.—Rarely seen in this state. Reported from the eastern pan-handle by Mr. Eifrig. Mr. Brewster saw a few individuals of this species in Ritchie Co., in May, 1874. The writer has seen the Swamp Sparrow but two or three times within this state.

Nest—On the ground.

Food—Insects and seeds.

585. Fox Sparrow (*Passerella iliaca*). Male and female. Note the thrush-like appearance of this large sparrow. One of the most beautiful members of the sparrow family. A good songster.

Geog. Dist.—Eastern North America, from the Gulf States northward to the Arctic coast. Found in the Yukon Valley, Alaska. This species, like the Song Sparrow, seems to be particularly susceptible to climatic influence. Consequently, there are several geographic races of this species.

W. Va. Dist.—Spends the winter in this section of country. Quite common in West Virginia in the colder part of the year. To be found in brushy thickets.

Nest—In low trees and bushes. Breeds in the far north.

Food—Great seed-eaters while spending the winter in this latitude.

587. Towhee (*Pipilo erythrophthalmus*). Male and female adults. Often called "Jo-ee" or "Ground Robin".

Geog. Dist.—Eastern United States and Southern Canada.

W. Va. Dist.—Very common all over the state. This species is abundant in the mountains. Wherever there are old fields or thickets the Towhees may be found at any time in the year, though they are not nearly so common in the winter as in the summer.

Nest—On or near the ground. The nest is usually found about blackberry bushes or other tangles of shrubbery. Four to five spotted eggs.

Food—"While scratching and digging among the leaves in early spring it unearths many dormant insects, and disposes of them ere they have an opportunity to propagate their kind" (Forbush).

593. Cardinal (*Cardinalis cardinalis*). Male and female. Known to most persons as "Red Bird".

Geog. Dist.—Eastern North America, north to the Great Lakes.

W. Va. Dist.—Common in the lower parts of the state. In the mountains it is replaced by its near relative, the Rose-breasted Grosbeak. On Feb. 24, 1908, I saw thirty-three Cardinals in one flock near Weston, W. Va.

Nest—In bushes. Breeds in great numbers in this state.

Food—Seeds and insects.

595. Rose-breasted Grosbeak (*Habia ludoviciana*). Male and female. This lovely bird is well named.

Geog. Dist.—Eastern United States, breeding from the Carolinas northward.

W. Va. Dist.—Very common, even abundant, in the higher mountains. In most parts of the state it appears only as a rare migrant in spring and fall. Mr. Thad. Surber says, "Breeds on Cold Knob" (Greenbrier County).

Nest—In bushes or trees. Breeds in great numbers in the Alleghenies Mountains.

Food—Fruits, seeds, insects. For full notes on food-habits of this bird, see "Food Habits of the Grosbeaks", Bulletin No. 32, Biological Survey, 1908.

597. Blue Grosbeak (*Guiraca caerulea*). Male and female. Carefully compare this species with the next named on the list.

Geog. Dist.—Eastern United States, from New Jersey southward to Cuba and Mexico.

W. Va. Dist.—Very rare in this state. A southern bird that does not often come so far north. Doan records it in his list of West Virginia birds.

Nest—In bushes. Three to four bluish white eggs.

Food—Fruit, grain, weed seeds, and such insects as the following: Ground beetles, caterpillars, stink-bugs, cicadas. McAtee says that injurious bettles form 24% of this grosbeak's food.

598. Indigo Bunting (*Cyanospiza cyanea*). Male and female. A bird of beautiful plumage and sweet song. Not to be confused with the common Bluebird.

Geog. Dist.—Eastern United States. South in winter to Central America.

W. Va. Dist.—One of our very common birds. Generally distributed throughout the state. Common in the mountains as well as in the lower elevations.

Nest—In a bush or among briers. Three to four pale bluish white eggs. Look for the nest in old fields.

Food—Of great service about gardens where it eats many insects and pernicious seeds. Especially fond of caterpillars.

608. Scarlet Tanager (*Piranga erythromelas*). Male and female. Note the great difference in the coloring of the male and female. In the winter the male takes on the less conspicious colors of the female. Is this true of other birds where the male is so much more highly colored than the female.

Geog. Dist.—Eastern United States, west to the Plains, north to Ontario.

W. Va. Dist.—Common throughout the state.

Nest—Near the end of a horizontal limb, several feet from the ground. Nest often found in West Virginia woods.

Food—"In its food preferences the Tanager is the appointed guardian of the oaks. We are much indebted to this beautiful bird for its share in the preservation of this noble and valuable tree." Feeds on many destructive insects.

610. Summer Tanager (*Piranga rubra*). A pair. Note that this species does not have the black wings which characterize the former species.

Geog. Dist.—Eastern United States, but more southern than last named species.

W. Va. Dist.—Common along the Ohio, Great Kanawha, Elk, and Little Kanawha Rivers. Not found in Upshur County or other sections up towards the mountains.

Nest—In a tree. Three to four spotted eggs.

Food—Tree-inhabiting insects.

611. Purple Martin (*Progne subis*). Male and female. Our largest swallow.

Geog. Dist.—Temperate North America, north to Ontario and the Saskatchewan, south to the higher parts of Mexico, wintering in South America.

W. Va. Dist.—Common throughout the state.

Nest—In boxes or in hollow trees.

Food—Mr. Ridgeway says, "No bird of North America is more deserving of protection and of encouragement to live about the habitations of man than the Purple Martin. One pair of them will

destroy more insects in a season than all the English Sparrows in a township will kill in their life-time." Recent investigations conducted by the U. S. Dept. of Agr. have proven that the swallows are valuable in the destruction of the Cotton-boll Weevil.

612. Cliff Swallow (*Petrochelidon lunifrons*). One specimen. Not so well known in this state as in some other parts of the country.

Geog. Dist.—North America, north to the limit of trees.

W. Va. Dist.—Not common. Mr. Jacobs speaks of seeing large flocks of these birds on the 23rd of August, 1897, near Morgantown. The writer has seen Cliff Swallows a few times as they seemed to be passing over this state on their migration flights. I have heard of a few pairs nesting in West Virginia, but the records are not authentic, with the single exception of Scott's record of the nesting of this species in Kanawha County.

Nest—Pocket-shaped nests of mud on the sides of a cliff or under the eaves of a barn.

Food—"The benefits derived from this bird appear to be much greater than any injury it may do in eating parasitic insects." (See "Birds in Their Relation to Man" by Weed and Dearborn, p. 128, 9.)

613. Barn Swallow (*Hirundo erythrogaster*). Male and female.

Geog. Dist.—North America in general, breeding from the Fur Countries south into Mexico. Winters in South America.

W. Va. Dist.—Very common in all parts of the state.

Nest—Of mud and grass attached to the rafter of a barn or other out-building. Four to six spotted eggs.

Food—Among our most useful birds as they feed largely on harmful insects.

614. Tree Swallow (*Tachycineta bicolor*). Male and female.

Geog. Dist.—North America at large.

W. Va. Dist.—Not very common in parts of the state. Quite common in Upshur County. Rare along the Ohio Valley. West Virginia records made by Surber, Doan, and Brewster.

Nest—In a hollow tree or bird-box.

Food—Eats many dragon flies. Some fruit.

616. Bank Swallow (*Clivicola riparia*). A pair. Look for this little swallow along the banks of large streams. Not to be confused with the next species.

Geog. Dist.—America, Europe, Asia, and Africa. Nearly cosmopolitan.

W. Va. Dist.—Common along all our larger streams.

Nest—In a hole in river bank, or other sand bank, or, some times, in holes in stone walls.

Food—Insects that are injurious to field and meadow grasses.

617. Rough-winged Swallow (*Stelgidopteryx serripennis*). One adult. Sexes almost alike.

Geog. Dist.—United States at large.

W. Va. Dist.—Brewster and Ingersoll report this species as breeding in several places in Ritchie County in 1874. I have seen the bird in Doddridge County. Not at all common.

Nest—Under bridges or in a hole in a bank. Four to eight white eggs.

Food—Very little seems to be known concerning the food-habits of this species. Of course it feeds on insects.

619. Cedar Waxwing (*Bombycilla cedrorum*). Male and female. The only representative of this family found in the state.

Geog. Dist.—North America at large, from the Fur Countries southward.

W. Va. Dist.—Very common in every part of the state. Abundant in the mountains. These birds gather in large flocks in the fall. Some times spend the winter in this state.

Nests—Bulky nest in fruit or shade trees. Common breeder in West Virginia.

Food—They eat cherries, strawberries, and other kinds of fruits. Considering the number of insects they devour, they must, however, be classed as beneficial birds. Very fond of wild poke berries. Destroy many cankerworms.

622. Loggerhead Shrike (*Lanius ludovicianus*). Male and female.

Geog. Dist.—Eastern United States.

W. Va. Dist.—Common along the Ohio River. Rare elsewhere.

Nest—Placed in low thorny trees. I have never heard of a nest being found in West Virginia.

Food—Mice form 50% of the food in winter. They eat many grasshoppers and small birds. The food is impaled upon a thorn from which it is eaten at the bird's leisure.

624. Red-eyed Vireo (*Virsosylva olivacea*). Male and female. More generally known than any other member of this family of woodland birds.

Geog. Dist.—Eastern North America, north to the Arctic regions.

W. Va. Dist.—Very common in all parts of the state.

Nest—Pensile in a forked branch, not far from the ground, five to forty feet up.

Food—"It is universally recognized as a great insect-eater" (Weed and Dearborn). Especially valuable as a destroyer of insects that attack forest trees. Sometimes eat berries.

627. Warbling Vireo (*Vireosylva gilva*). A pair. These Vireos are more common about our cities and towns than the other members of this family. The Warbling Vireo should be well known to all on account of its sweet song and useful habits. No birds sings more persistently nor more sweetly from the shade trees along the streets than does this small vireo, yet the passer-by does not know the bird, and is ignorant of its form, its song, and its habits.

Geog. Dist.—North America in general, from the Fur Countries to Oaxaca, Mexico.

W.Va. Dist.—Common throughout the state. Not found in the mountain sections.

Nest—Pensile, suspended from a forked branch eight to forty feet up.

Food—Insects that feed on the foliage of shade trees. An immensely useful species.

628. Yellow-throated Vireo (*Lanivireo flavifrons*). Male and female.

Geog. Dist.—Eastern United States, north to Ontario.

W. Va. Dist.—Tolerably common in woodlands.

Nest—Suspended from a forked branch ten to forty feet up. Three to four spotted eggs.

Food—Forest insects.

629. Blue-headed Vireo (*Lanivireo solitarius*). Male and female. A subspecies, the Mountain Solitary Vireo, is some times found in this state.

Geog. Dist.—Eastern North America to the Plains, north to Hudson Bay.

W. Va. Dist.—An uncommon migrant, save in the mountain

regions where the subspecies, as noted above, occurs in the summertime.

Nest—Hanging nest, suspended to a forked branch five to ten feet up.

Food—Forest insects.

631. White-eyed Vireo (*Vireo griseus*). A pair. A bird of peculiar notes and actions. For observations on this bird in West Virginia see West Virginia School Journal, December, 1908.

Geog. Dist.—Eastern United States, from New England southward.

W. Va. Dist.—Common along the valleys of the Elk, Great Kanawha, Greenbrier, Ohio, and Little Kanawha Rivers. In several years residence along the Monongahela and the West Fork I have not seen a single specimen of this Vireo. For many years I looked for this bird in Upshur County, but failed to find it there.

Nest—Suspended from a forked branch in a thicket.

Food—Some fruit. Many insects of trees and shrubbery.

636. Black and White Warbler (*Mniotilta varia*). A pair. This bird may be known always by its plain black and white stripes. In its habit of running up and down trees, it is like a creeper.

Geog. Dist.—Eastern United States from New England southward.

W. Va. Dist.—Common in the summer months. Reaches West Virginia about the 10th of April and remain till the last of September. Not very common in the higher portions of the state.

Nest—On the ground by the roots of a tree or under the edge of a log or rock.

Food—Insects that are found on the trunks of trees.

637. Prothonotary Warbler (*Phrotonotaria citrea*). One male adult. A beautiful warbler found about streams and swamps.

Geog. Dist.—South-eastern and Central United States.

W. Va. Dist.—Mr. Doan says, "I took a specimen of this fine warbler Aug. 3, near Buckhannon, in a swampy woods."

Nest—In a hole in tree.

Foods—Insects that are found about water.

639. Worm-eating Warbler (*Helmitherus vermivorus*). One specimen. A very plain, yet beautiful bird. The song of this

Warbler is so nearly like that of the Chipping Sparrow that the two are often confused. Both sexes have the black and yellow stripes on the head, and, by the same markings, this species may be known at every stage of its plumage-development.

Geog. Dist.—Eastern United States, southward from New York.

W. Va. Dist.—Very common in well-wooded sections of the state.

Nest—On the ground. Four to six spotted eggs. Breeds in West Virginia.

Food—Forest insects that keep near the ground. Very little seems to be known concerning the food-habits of this species.

641. Blue-winged Warbler (*Helminthophila pinus*). One specimen, male adult.

Geog. Dist.—Eastern United States, from southern New England southward.

W. Va. Dist.—There are very few records of the occurrence of this Warbler in our state.

Nest—On the ground.

Food—Larvae that feed on oak and chestnut leaves, and other insects.

642. Golden-winged Warbler (*Helminthophila chrysoptera*). Male and female. This species may be found about old brier-fields and in open woods. A very beautiful bird. When once the song of this bird is heard, it is not likely to be forgotten.

Geog. Dist.—Eastern United States, north to southern New England.

W. Va. Dist.—Rather rare summer resident in most parts of the state. In Wood and Upshur Counties, I have observed this species in the nesting season. In the summers of 1907 and 1908 I found this bird breeding in considerable numbers in the glades about Cowen, Webster County.

Nest—On or near the ground in fields or glades or open woods.

Food—"This bird must be a great destroyer of leaf lice and small caterpillars that infest the tips of branches and the underside of leaves, for they are continually searching and picking at the opening buds and waxen leaves at the ends of new twigs, the male pausing frequently to sing. At times their actions remind one of the Gnatcatcher in flitting hither and thither snatching up small winged mites." (See Jacobs, "The Haunts of the Golden-winged Warbler", p. 22).

645. Nashville Warbler (*Helminthophila ruficapilla*). Male and female. This species is known by very few persons. Found often about orchard trees in the spring. Rather inconspicuous in both coloring and song.

Geog. Dist.—Eastern North America to the Plains, north to the Fur Countries. Breeding from northern United States northward.

W. Va. Dist.—The writer has observed this species several times in Upshur and Wood Counties. Accredited to West Virginia by Doan.

Nest—On the ground. Breeds north of the United States.

Food—Nashville Warblers have been observed feeding upon young tent caterpillars and other species of destructive caterpillars, and, in the west, large numbers of young locusts are eaten by this little bird.

647. Tennessee Warbler (*Helminthophila peregrina*). A pair of adults. A very interesting migratory species.

Geog. Dist.—Eastern North America, breeding from New England northward to Hudson Bay Territory.

W. Va. Dist.—W. D. Doan says, "Took specimen near Fairmont, Sept. 12." I have observed this very plainly marked little Warbler a few times in various parts of the state.

Nest—In low bushes near the ground. Chapman says, "Little seems to be known about the nesting habits of this Warbler."

Food—"It searches diligently for the insect mites that infest the foliage of trees, seeming to have a special fondness for aphides, forty-two of which have been taken from the stomachs of three of these birds." (Weed and Dearborn).

648. Parula Warbler (*Compsothlypis americana*). Male and female. One of the daintiest and most beautiful of all our woodland birds. Keeps well up towards the tops of forest trees and is not often observed.

Geog. Dist.—Eastern and southern United States. In the northern States a subspecies, the Northern Parula Warbler, takes the place of this species.

W. Va. Dist.—Very common in the summer season throughout the greater part of this state.

Nest—In bunches of *Usnea* moss.

Food—Woodland insects.

650. Cape May Wabler (*Dendroica tigrina*). A pair of adults. A richly colored migrant species. To be looked for in the spring and fall only.

Geog. Dist.—Eastern North America, north to Lake Winnipeg and Hudson Bay, and west to the Plains.

W. Va. Dist.—Quite common in the spring and fall migration seasons. Some times individuals will linger about evergreen trees for several weeks as they go northward.

Nest—On branch of tree. Breeds northward to the Aretic regions.

Food—Very little is known of the feeding habits of this bird. I have seen this species eating small insects from evergreen trees and from fruit and woodland trees in the spring. Especially fond of insects that infest spruce trees. Some times opens ripe grapes and drinks the juice.

652. Yellow Warbler (*Dendroica aestiva*). A male and female represent this very common species in the collection. Unlike many of the Warblers, this species is found commonly about orchards, and in the shade trees along city streets.

Geog. Dist.—North America at large, excepting the south-western part.

W. Va. Dist.—Mr. Brewster says of this species, as he found it in Ritchie County in 1874. "Restricted entirely to belt of willows." Common in all the lower-lying sections of the state.

Nest—In orchard trees. Eggs, four to five, bluish white with brown spots. The nest of this bird often contains one or more eggs of the Cowbird.

Food—Weed and Dearborn say, "The food habits of the Yellow Warbler are all that could be desired. It freely visits farm premises and feeds on minute insects of many kinds." Often feeds upon canker worms. Tent caterpillars, adult currant borers, codling moths, and other harmful insects of orchard and garden are a part of this Warbler's food.

654. Black-throated Blue Warbler (*Dendroica caerulescens*). Adult male and female. Migrant. To be seen only in the woods.

Geog. Dist.—Eastern North America, as far north as Labrador.

W. Va. Dist.—Very common in our state in the autumn migration. Not so frequently seen in the spring. A subspecies, known as Cairn's Warbler, is abundant in the summer time in the mountains

of West Virginia. Cairn's Warbler may be found nesting in any of the higher ranges of the Alleghenies.

Nest—In shrubbery near the ground. Eggs, three to five, almost white with spots about the larger end.

Food—Like the Cape May Warbler, this species is some times guilty of sucking the juice of ripe grapes. Otherwise the bird is useful in destroying insects which feed upon the buds and leaves of forest trees.

655. Myrtle Warbler (*Dendroica coronata*). A pair of adults. Note the four large patches of yellow on the male. The species may be identified at any time by the yellow on its rump. Often called the Yellow-rumped Warbler.

Geog. Dist.—Eastern North America, sometimes straggling westward.

W. Va. Dist.—A very common migrant, occasionally remaining throughout the winter.

Nest—Breeding range from northern states northward. Low in coniferous trees.

Food—Insects and berries of certain kinds, especially myrtle berries.

657. Magnolia Warbler (*Dendrocia magnolia*). Two specimens, male and female. One of the prettiest birds to be found in West Virginia. Often called "Black and Yellow Warbler".

Geog. Dist.—North America, east of the Rocky Mountains and north to Hudson Bay Territory.

W. Va. Dist.—Through most parts of the state this Warbler passes in great number in both the migration seasons. In the higher Alleghenies, this species breeds and may be found at any time in the summer months. In the Back Allegheny Mountains near Cheat Bridge, I found old birds feeding their young as late as the middle of August in 1906.

Nest—Usually in a small spruce tree only a few feet from the ground. For a very interesting account of the nesting habits of this and other Warblers, see Chapman's "The Warblers of North America."

Food—Plant lice and other insects. Very little is known of its food habits.

658. Cerulean Warbler (*Dendroica cerulea*). Adult male and female.

PURPLE FINCH.

(Upper figure, Male; Lower figure, Female.)

Order—Passeres.
Genus—Carpodacus.

Family—Fringillidæ.
Species—Purpurea.

Geog. Dist.—Eastern United States and southern Ontario. Most common in the valley of the Ohio River.

W. Va. Dist.—As already indicated the Cerulean Warbler is to be found in largest numbers in the Ohio Valley. In the oak-covered ridges, back a little from the Ohio River, I have found this species in very great numbers. Indeed, at times, almost every tree seemed to contain one or more of these charming little birds. The song is very cheerful.

Nest—In large trees. Breeds in West Virginia.

Food—I have observed this species feeding upon little moths and other insects found about the tops of chestnut oak trees.

659. Chestnut-sided Warbler (*Dendroica pensylvanica*). Male, female, and young. Very appropriately named. In life this is one of our most attractive Warblers. The cheerful song and alert ways of this little bird are very pleasing to any one who essays to study its habits.

Geog. Dist.—Eastern United States.

W. Va. Dist.—Mr. Surber says of this species in Greenbrier County, "A rare summer resident. Have found one nest containing four eggs of this species." I have found this Warbler breeding in considerable numbers in the glades of Webster County. In most parts of the state it appears only as a migrant. One may look for these graceful little birds about the 2nd day of May. For a few days they remain, then pass on to their breeding grounds. In the fall they return in the middle of September, then journey on southward with the great Warbler hosts.

Nest—In bushes a few feet up. I found a nest in Webster County that was built in a Clammy Azalea bush that was then in full bloom. The surroundings of the nest were most beautiful.

Food—"It is very destructive to many injurious beetles and caterpillars, being one of the most active consumers of leaf eating insects." (Weed and Dearborn)".

660. Bay-breasted Warbler (*Dendroica castanea*). Male and female. The colors of this Warbler are much like those of the Chestnut-sided Warbler. A rare bird in most localities, but a species of great interest.

Geog. Dist.—Eastern North America, north to Newfoundland.

W. Va. Dist.—Seen in our state only as a migrant. Always

rather rare, though I have seen a great many in some autumn migration seasons.

Nest—Up several feet in coniferous trees. Breeds in extreme northern United States and northward.

Food—Such insects as live in the tops of coniferous trees.

661. Black-poll Warbler (*Dendroica striata*). Male and female. A modestly colored species, but most beautiful when seen moving about gracefully in the green tree tops. Langille says of the song of this northern Warbler, "There is a peculiar soft and tinkling sweetness in this melody, suggestive of the quiet mysteries of the forest, and sedative as an anodyne to the nerves."

Geog. Dist.—Eastern North America, west to the Rocky Mountains, north to Greenland, the Barren Grounds, and Alaska.

W. Va. Dist.—This species appears in our section only as it passes from its breeding grounds in the far north to its winter home in South America. In the spring it is not often observed as it passes through this latitude quite hurriedly, but in the fall great numbers of the young may be seen in the woods, and they linger, sometimes, for several weeks.

Nest—Generally placed in a low spruce tree. Four to five speckled eggs.

Food—Plant lice and other insects. Feeding habits not well known.

662. Blackburnian Warbler (*Dendroica blackburniae*). Adult male and female. Few birds are more richly colored than this species.

Geog. Dist.—Eastern North America, west to Kansas, and north to Labrador.

W. Va. Dist.—A rather common migrant. It is quite possible that this species breeds in our mountains, but I have never found it there in the breeding season. Mr. Edward A. Preble found the Blackburnian Warbler in the mountains of western Maryland in June and July, 1899.

Nest—In coniferous trees some distance from the ground.

Food—Insects. Very little has been recorded concerning the food of this species.

663. Yellow-throated Warbler (*Dendroica dominica*). Male and female.

Geog. Dist.—Southeastern United States, as far north as Maryland.

W. Va. Dist.—Mr. Doan says he found this species in considerable numbers along the head-waters of Middle Fork River. Scott reports that a male and female were taken by Mr. W. S. Edwards in Kanawha County some years ago.

Nest—In tall trees. No record of the breeding of this species in W. Va.

Food—As in the case of so many of our Warblers, very little accurate information has been gathered concerning their feeding habits. Of course all the birds of this family feed principally upon insects, but the exact economic status of the various species is not known. Said to gather most of their food from the extremities of limbs, among the pine needles which grow there.

667. Black-throated Green Warbler (*Dendroica virens*). Male and female. The black on the throat of the male is not well defined till bird is mature. A common and very pretty species.

Geog. Dist.—Eastern North America, west to the Plains, and north to Hudson Bay Territory.

W. Va. Dist.—A common migrant. In the mountains the bird remains throughout the summer and breeds.

Nest—In tall tree. Breeds in our state.

Food—Caterpillars, curculios and other beetles, small bugs, various Hymenoptera, small locusts, and cankerworms are recorded as the common food of this Warbler.

671. Pine Warbler (*Dendroica vigorsii*). A pair of adults.

Geog. Dist.—Eastern United States.

W. Va. Dist.—Recorded from this state by Brewster, Doan, and Eifrig. I have observed this species occasionally, but not often.

Nest—Far up in tall trees, mostly coniferous trees. Four to five spotted eggs.

Food—Weed and Dearborn say, "It is undoubtedly the particular guardian of the pines, about which it remains until very late in the season, for it feeds mainly on insects that infest pine trees. It is able to subsist to some extent on the seeds of pines."

672a. Yellow Palm Warbler (*Dendroica palmarum hypochrysea*). Male and female adult. More than most of the Warblers, this species is found along fences and in open fields. May be readily recognized by the constant wag of its tail.

Geog. Dist.—Atlantic States, north to Hudson Bay.

W. Va. Dist.—Quite common in the migration seasons. It is probable that both the Palm Warbler and the Yellow Palm Warbler may yet be reported from this state. Indeed, I am inclined to believe that the most common form found in this state is *D. palmarum*.

Nest—On or near the ground. Breeds far to the north.

Food—Such insects as are found in its haunts.

673. Prairie Warbler (*Dendroica discolor*). Adult male and female.

Geog. Dist.—Eastern United States.

W. Va. Dist.—Reported by Doan and Eifrig. Apparently rare in this state.

Nest—In bushes on sunny hill-sides. Breeds from Florida to Michigan.

Food—Insects. I find no careful notes on food habits of this species.

674. Oven-bird (*Seiurus aurocapillus*). Male and female adult. Often called "Golden-crowned Thrush". Sings a very attractive aerial song, though its more common vocal performance has little merit.

Geog. Dist.—Eastern North America, north to the Hudson Bay Territory and Alaska.

W. Va. Dist.—Very common in all parts of the state. Last summer (1908) I found an adult with young just from the nest near the summit of Spruce Knob.

Nest—An oven-shaped affair on the ground in open woods. Eggs, four to five. A very common bird in our state in the breeding season.

Food—Feeding on the ground, it picks up many grubs and other insects that infest the lower shrubbery.

675. Water-Thrush (*Seiurus noveboracensis*). Male and female adult. A thrush-like Warbler that is much more common farther north than in this latitude.

Geog. Dist.—Eastern United States, west to Illinois, and north to Arctic America.

W. Va. Dist.—This species has been recorded from this state by Brewster, Scott, Surber, and Doan. I have seen this northern

Water-Thrush but once in the state. In the spring of 1905 I had the opportunity of studying one, for an hour or more, that was flying and singing along a small stream in a large tract of woodland near Waverly.

Nest—Generally in a mossy bank. Breeds from northern United States northward.

Food—Insects that are found along water-courses.

676. Louisiana Water-Thrush (*Seiurus motacilla*). One adult. Compare carefully this and the preceding species. The great Audubon considered this bird to be the best of American songsters.

Geog. Dist.—Eastern United States, north to Southern New England.

W. Va. Dist.—Very common along all streams. The wagging of the tail, the sharp, loud chirp, and the clear, thrilling song are well-known to all who have observed this bird. Rather rare in the mountains though I have found it in the Yew Mountains.

Nest—In the banks along streams. Nests commonly in this state.

Food—Insects which are to be found along streams and on the muddy banks of pools.

677. Kentucky Warbler (*Oporornis formosa*). One pair of adults.

Geog. Dist.—Eastern United States, but not very far north.

W. Va. Dist.—Very common in the lower wooded regions of the state.

Nest—Made of dry grasses and weed stalks, on the ground. Four to five very beautiful eggs.

Food—Ground insects.

678. Connecticut Warbler (*Oporornis agilis*). One adult.

Geog. Dist.—Eastern United States and Southern Canada.

W. Va. Dist.—One of the rarest of our Warblers.

Nest—On the ground. Has been found breeding in Manitoba.

Food—Terrestrial insects, and such species as are found in swampy places.

679. Mourning Warbler (*Oporornis philadelphia*). One male. Compare carefully with the two preceding species.

Geog. Dist.—Eastern North America to the Plains.

W. Va. Dist.—For some years this species had been classed as

a rare migrant in our state, but Dr. Rives found numbers of them in the mountains about Davis in the summer of 1897. I found this interesting species breeding on Spruce Knob in June, 1908. On June 18, I saw Mourning Warblers feeding their young which had just left the nest.

Nest—In briars or weed thickets near the ground.

Food—Feeds on insects, but the character of its insect food has not been studied with any care.

681. Maryland Yellow-throat (*Geothlypis trichas*). Male and female adults.

Geog. Dist.—Eastern United States.

W. Va. Dist.—This bird has been reported from almost all parts of the state, but in certain sections is called rare. In central W. Va. it is quite common in localities where there are many streams and much meadow land. Exceedingly abundant in the glades of Webster County. The song of the Maryland Yellow-throat is the most characteristic song of the glade region, unless it be that of the Song Sparrow.

Nest—Often found in a tussock of grass or in like situation, near the ground. Breeds abundantly in some sections of the state.

Food—Destroys many leaf hoppers and grasshoppers and other insects that are harmful to grass-lands. A very useful bird.

683. Yellow-breasted Chat (*Icteria virens*). Male and female adults. The peculiar song of this species should be known by every boy and girl in West Virginia. This species is to be seen in briar fields and in the edges of woodland. One of our largest Warblers.

Geog. Dist.—Eastern North America, as far north as Ontario.

W. Va. Dist.—Very common in all pats of this state outside of the more elevated portions.

Nest—In some thicket, or bunch of briars. Common breeder in W. Va.

Food—Insects which infest shrubbery.

684. Hooded Warbler (*Wilsonia citrina*). Pair.

Geog. Dist.—Eastern United States as far north as southern New England.

W. Va. Dist.—Most students of the birds of West Virginia have called this a very common species. However, it is not generally

known. Like so many of these beautiful Warblers, persons, generally, are unfamiliar with its great beauty and usefulness.

Nest—I have found a number of the nests of this Warbler. They are placed, as a usual thing, rather low in the crotch of a bush of some kind.

Food—Woodland insects.

685. Wilson's Warbler (*Wilsonia pusilla*). A pair of adults. Sometimes called the Black-capped Fly-catching Warbler.

Geog. Dist.—Eastern United States, north to Hudson Bay, Labrador, and Alaska.

W. Va. Dist.—Known in this state only as a rare migrant.

Nest—On the ground. Breeds north of the United States, a few nesting in northern Maine.

Food—I have no food record of this species. Often flies into the air and catches insects on the wing.

686. Canadian Warbler (*Wilsonia canadensis*). Male and female. This species may be recognized always by the necklace of black spots across the breast.

Geog. Dist.—Eastern North America, north to Newfoundland and Athabasca.

W. Va. Dist.—In most parts of the state a rather common migrant. In the mountain section it remains through the summer to breed.

Nest—On the ground under some root or tuft of moss. Nests in this state.

Food—Insects.

687. American Redstart (*Setophaga ruticilla*). Male and female. Note the decided difference in the colors. This pretty bird is to be found along streams in the deep woods.

Geog. Dist.—Eastern North America, far to the north.

W. Va. Dist.—Abundant in most parts of the state. Not found in the mountains.

Nest—In the crotch of a sapling.

Food—"Apparently there are few forest insects that do not, in some forms, fall a prey to the Redstart. It takes its prey from trunk, limbs, leaves, and from the air. Destroys some useful parasitic Hymenoptera."

703. Mockingbird (*Mimus polyglottos*). Male and female. From these specimens and the specimens of the two species following,

learn the real difference between the true Mockingbird and those species with which it is often confused.

Geog. Dist.—Southern United States.

W. Va. Dist.—Extremely rare in the northern part of the state. Occasionally seen in the southern parts of West Virginia.

Nest—In thickets.

Food—So much has been said of the song of this species that one does not often think of its food. Weed and Dearborn say, "Its food appears to be much like that of the other thrushes, consisting of about equal portions of insects and various wild and cultivated fruits. The young appear to be fed chiefly upon insects, among which the moth of the cotton-boll-worm deserves special mention."

704. Catbird (*Dumatella carolinensis*). Male and female.

Geog. Dist.—Eastern United States and British Provinces.

W. Va. Dist.—An abundant species in all parts of the state. Found along streams, even high up in the mountains.

Nest—In thickets or in trees of thick foliage. Eggs, three to five, dark greenish blue.

Food—Often destroys much fruit, and yet the species is not altogether harmful. It has been suggested that the planting of wild fruit trees or such varieties as the Russian mulberry will protect the finer cultivated varieties from these fruit-loving birds. Weed and Dearborn say, "We have no doubt that, on the whole, the benefit which it does is much greater than the harm, and its destruction should never be permitted except when necessary to save precious crops."

705. Brown Thrasher (*Harporynchus rufus*). Male and female, adults. Often called "Mockingbird" or "French Mockingbird."

Geog. Dist.—Eastern United States, north to Maine.

W. Va. Dist.—Very common in the less elevated parts of the state.

Nest—In heaps of brush, thickets, or on an old rail fence. Rarely on the ground. Breeds abundantly in this section.

Food—Eats wild and cultivated fruits. A great destroyer of insects of many kinds. A very beneficial bird.

718. Carolina Wren (*Thryothorus ludovicianus*). Male and female. A fine songster, as are all the wrens.

Geog. Dist.—Eastern United States, north to southern New York.

W. Va. Dist.—Exceedingly common in all parts of the state that I have visited. Is to be found well up on the sides of the mountains, though I have not found it on the summits of our loftier ranges. Very abundant along the Ohio and its larger tributaries.

Nest—Most often built in crevices about buildings, or in holes in trees, stumps, or logs. I have found this species nesting in dwelling-houses.

Food—Many kinds of destructive insects.

721. House Wren (*Troglodytes aedon*). One adult specimen.

Geog. Dist.—Eastern United States, more common towards the north.

W. Va. Dist.—Not found more than a few miles west of the summit of the Alleghenies. On top of the mountains, it is quite common. West of the mountains, this species is replaced by the abundant Bewick's Wren.

Nest—In a hole in a tree, bird-house, or crevice. Last summer I found a nest at Osceola in a crevice in an old spruce root, out in the open field.

Food—Its diet is exclusively insectivorous. Feeds principally upon the insects that are very destructive to orchard and garden plants, shrubbery, and trees.

722. Winter Wren (*Nannus hiemalis*). Male and female. This is our smallest Wren. A most delightful songster. At Horton, in June 1908, I heard the Winter Wren, House Wren, Bewick's Wren, and Carolina Wren all singing at the same time.

Geog. Dist.—Eastern North America generally.

W. Va. Dist.—In the lower altitudes in the state this tiny bird is found only in winter. In the mountains, from 3,500 ft. up, it remains to breed.

Nest—In the up-turned roots of a tree, in piles of brush, and sometimes in a pocket of moss on the side of a tree. Five to seven speckled eggs. I have found two nests of the Winter Wren in the spruce woods above Pickens, Randolph County.

Food—Woodland insects.

725. Long-billed Marsh Wren (*Cistothorus palustris*). Male and female adults.

Geog. Dist.—Eastern United States.

W. Va. Dist.—Mr. Doan says he observed this species along the

Ohio and Great Kanawha Rivers. In four years' residence on the banks of the Ohio River I did not see a single specimen of this Marsh Wren.

Nest—Among reeds or bushes.

Food—Said to feed upon insects, spiders, and snails.

726. Brown Creeper (*Certhia familiaris fusca*). Two specimens. The name of this bird is a good description of it. Can not be mistaken for any other species.

Geog. Dist.—Eastern North America.

W. Va. Dist.—Fairly common in winter, spring, and fall. In the mountains it occurs in the summer months, and probably breeds there.

Nest—Placed behind the loose bark of trees. Five to eight spotted eggs.

Food—Very few precise determinations of its food have been made. Feeds upon insects that are found upon the bark of trees.

727. White-breasted Nuthatch (*Sitta carolinensis*). Pair of adults.

Geog. Dist.—Eastern United States, from Georgia northward.

W. Va. Dist.—Common in all parts of the state, less so in mountains.

Nest—In a hole in tree. Five to eight beautiful eggs. Nests in this state.

Food—Grains, seeds, and insects. This species destroys many insects in the egg or larvæ stage. Feeding constantly upon the insects that are to be found on the bark of trees, it must be that many harmful species, such as Scolytids and other tree and bark-boring insects, are eaten. This bird is especially useful in the winter as it goes over the tree trunks searching every nook and cranny.

728. Red-breasted Nuthatch (*Sitta canadensis*). Male and female adults. To be distinguished most carefully from the preceding. A rare bird outside of the mountains.

Geog. Dist.—North America at large.

W. V. Dist.—As suggested above, this bird is rare in West Virginia excepting in the higher elevations, where it may be found in considerable numbers, in the breeding season. The nasal *yank yank* of this species is a common sound in the black spruce forests in the Allegheny Mountains.

Nest—In hole in a tree. Breeds in West Virginia.

Food—Much the same as in preceding species.

729. Brown-headed Nuthatch (*Sitta pusilla*). A pair.

Geog. Dist.—South Atlantic and Gulf States.

W. Va. Dist.—No positive records of the occurrence of this species in West Virginia.

Nest—In hole in tree or stump.

Food—Insects.

731. Tufted Titmouse (*Parus bicolor*). One specimen. Sexes alike. A species that will repay careful study.

Geog. Dist.—Eastern United States, from New Jersey and Pennsylvania southward.

W. Va. Dist.—In all the central, southern, and western part of this state, this is one of the most abundant species. Rather rare in the mountains.

Nest—Often in deserted Woodpecker's holes.

Food—It seems to me that this is one of our most useful birds, though I have not gone into the study of its food habits with special care. This birds feeds constantly about shrubbery, and often comes into our yards, orchards, and gardens where it works unceasingly in its search for insects. My observations lead me to believe that it destroys great numbers of the eggs and larvæ of injurious insects. It would be well worth the while if some West Virginian would work out the food habits of this bird, which is so common in our state.

735. Chickadee (*Penthestes atricapillus*). Male and female adult.

Geog. Dist.—Eastern North America, north of the Potomac and Ohio Valleys.

W. Va. Dist.—Found only in the mountains. A very similar species, the Carolina Chickadee, is abundant in the lower elevations of the state. I have found some specimens that seemed to be intermediate between the two species.

Nest—In a hole in stumps or trees. Breeds in our mountains. Have taken young only a few day from the nest.

Food—Eggs of plant lice make up more than one-fifth of the food of these birds in the winter months. A single bird, in one day, has been known to eat more than four hundred and fifty eggs of plant lice. Very useful in destroying other harmful insects and

their eggs. The Chickadees ought to be protected most carefully, and should be encouraged to build about our homes.

748. Golden-crowned Kinglet (*Regulus satrapa*). Two specimens. This dimunitive bird is well named. Compare with the following species.

Geog. Dist.—North America Generally.

W. Va. Dist.—Very common in the migration seasons and in the winter months. Last summer I took a specimen of this bird on the top of Spruce Knob. I have reason to believe that this species was breeding there.

Nest—Usually built high up in coniferous trees. Supposed to breed in this state.

Food—Minute forest insects.

749. Ruby-crowned Kinglet (*Regulus calendula*). One specimen in the collection. Neither one of the two species of Kinglets is often observed by the untrained student of birds. Strange that such attractive birds as both these are should not be better known! The Ruby-crown is even less conspicious than the Golden-crown.

Geog. Dist.—North America.

W. Va. Dist.—Very common in orchards and open woodlands in the time of spring and fall migrations. The best time to become acquainted with this little Kinglet is in the last days of April when apple trees are in full bloom. Several are sure to be found about any orchard, and there the exquisite song and the quaint little scolding notes may be heard.

Nest—Builds its nest in evergreen trees of the northern forests.

Food—Insects, especially those that are found about young and tender leaves, and blossoms.

751. Blue-gray Gnatcatcher (*Polioptila caerulea*). Adult and young. Looks like a small Mockingbird. A very interesting bird of the forests and orchards.

Geog. Dist.—Middle and southern portions of the eastern United States.

W. Va. Dist.—I have found this bird in great numbers in almost every section of the state. Not found in the mountains. Being a bird of southern distribution, one finds it oftenest in the Carolinian and Transition life zones.

Nest—Resembles the nest of a hummingbird, though, of course, it is larger. Like a bunch of lichens on a limb.

Food—Eats great quantities of insects about trees of all sorts Without the help of such birds, all our trees would soon be defoliated by the insects.

755. Wood Thrush (*Hylocichla mustelina*). One specimen. Sexes nearly alike. One of our best songsters.

Geog. Dist.—Eastern United States.

W. Va. Dist.—Very common. Rather rare in the mountains.

Nest—In a sapling a few feet from the ground.

Food—Eats many insects and a little fruit. Some times eats rose beetles. Very useful birds.

756. Wilson's Thrush (*Hylocichla fuscescens*). Two specimens. Of all our songbirds, I think this is the most musical. The song of this species is not often heard outside of the spruce forests in the higher Alleghenies. One must study these thrushes very carefully in order to distinguish them in life. I have found it very difficult to learn the several thrushes that are to be found within our state.

Geog. Dist.—Eastern United States, north to Newfoundland.

W. Va. Dist.—To find this bird in our state one must go to the mountains, though it may be seen elsewhere in the spring and fall migration periods. Quite common in the higher parts.

Nest—On or near the ground. One found in the Spruce Mountains last summer (1908), was built on a log. Beautiful eggs.

Food—Forest insects. Some wild fruit.

758a. Olive-backed Thrush (*Hylocichla ustulata swainsonii*). Male and female.

Geog. Dist.—Eastern North America, sometimes westward to the Pacific.

W. Va. Dist.—A common migrant. A rare breeder in the mountains of this state.

Nest—In bushes a few feet up. Speckled eggs.

Food—Forest insects.

759b. Hermit Thrush (*Hylocichla aonalaschkae pallasii*). Two specimens. Sometimes called Swamp Angel. Though I have heard the song but once, I am ready to join with others who speak of it as most beautiful.

Geog. Dist.—Eastern North America.

W. Va. Dist.—Rather rare migrant, though I usually see several each season. Sometimes they linger, in protected places in the woods, till near the close of November, before passing on southward. Preble reports this species as having been found in western Maryland in the summer months. It may yet be found breeding in some of our higher mountains.

Nest—On the ground.

Food—Like that of other woodland thrushes.

761. American Robin (*Planesticus migratorius*). Male and female. A very common bird that needs no description.

Geog. Dist.—Eastern North America, to the Rocky Mountains, including eastern Mexico and Alaska.

W. Va. Dist.—Common throughout the state.

Nest—In orchard and woodland trees. Blue eggs.

Food—Many kinds of insects. Some fruit both wild and cultivated. It pays to protect the Robin, from both an economic and an esthetic standpoint.

766. Bluebird (*Sialia sialis*). Male and female. As in all young thrushes, the young of this species have a speckled breast.

Geog. Dist.—Eastern United States to the eastern base of the Rocky Mountains, north to Manitoba, Nova Scotia, and Ontario.

W. Va. Dist.—Common in most parts of the state. Sometimes remains over winter. Not often seen up in the mountains.

Nest—In a hole in stump, or old dead tree. Sometimes in birdhouses.

Food—"It is a persistent foe of Orthoptera." (Forbush) Grasshoppers constitute nearly 22 per cent of its food.

DESCRIPTION OF PICTURES.

No. 1. Home of S. W. Moore—in Winter—Mason County, W. Va.
" 2. Ben Davis in Wilderness Orchard,
Allegheny Orchard Company, Berkeley Co., West Virginia.
" 3. Six Year Old Apple Orchard with Peach Trees as Fillers.
S. W. Moore, Mason County, West Virginia.
" 4. Hay Crop on Station Farm, Morgantown, West Virginia.
" 5. A Typical Shaped Ben Davis Apple Tree.
" 6. Rocky Orchard—Limestone—Dr. Border, Jefferson Co., W. Va.
" 7. THE ORIGINAL GRIMES GOLDEN APPLE TREE, THE FAMOUS WEST VIRGINIA SEEDLING, ORIGINATED ON THE FARM OF THOMAS GRIMES, BROOKE COUNTY, WEST VIRGINIA.
" 8. Undrained Glades Showing Heavy Growth of Ferns, Preston County, West Virginia.
" 9. The Falls of the Little Black Water, Tucker County, W. Va.
" 10. The Miller Peach Orchard, Berkeley County, West Virginia.
" 11. Tobacco Growing on Drained Glade Land, Preston Co., W. Va.
" 12. One Way to Keep the Boy on the Farm. Upshur County, W. Va.
" 13. Apple Picking, Brown Brothers, Hancock County, W. Va.
" 14. Poultry on Station Farm, Morgantown, West Virginia.
" 15. Hay Field. Station Farm, Morgantown, West Virginia.
" 16. Trilliums and Old Log, French Creek, Upshur County, W. Va.
" 17. Melon Field in the Ohio Valley, West Virginia.
" 18. A Loaded York Imperial, Buckhart's Orchard, Berkeley Co., W. Va.
" 19. Drained Glades, Preston County, West Virginia.
" 20. Geese in West Virginia.

No. 21. Buckwheat Field, Near Reedsville, Preston County. W. Va.

" 22. Vineyard, F. E. Brooks, Upshur County, West Virginia.

" 23. Apple Orchard Showing Cover Crop of Cow Peas, J. N. Thatcher, Berkeley County, West Virginia.

" 24. Birds Eye View of H. C. Brenneman's Orchard, Hancock Co., W. Va.

" 25. Preparing for Harvest, Jefferson County, West Virginia.

" 26. Dairy Herd, Experiment Farm, Morgantown, West Virginia.

" 27. Onions on Reclaimed Glade Land, Preston County, West Va.

" 28. Rye in Shock, Experiment Station, Morgantown, West Va.

" 29. Undrained Glades Showing Ferns and Wild Flowers, Preston Co.

" 30. Cabbage on Reclaimed Glade Lands, Preston Co., West Virginia.

" 31. Looking Up Cheat River, Camp Eden, Near Morgantown, W. Va.

" 32. Hopkins South Down Sheep, Wood County, West Virginia.

" 33. Glade Land Showing Farm Scene, Preston Co., West Virginia.

" 34. A Flood Scene on the Ohio River, Mason County, West Virginia.

" 35. Haying on the Experiment Farm, Morgantown, West Virginia.

" 36. Trilliums in the Woods of Upshur County, West Virginia.

" 37. Green Mountain Grape, Vineyard of F. E. Brooks, Upshur Co., W. Va.

" 38. Buckwheat Plats, Experiment Farm, Morgantown, West Virginia.

" 39. Looking Down Cheat River from Camp Eden, Near Morgantown, W. Va.

" 40. S. W. Moore's Cove Orchard Showing Peach and Apple 6 years Old, Mason County, West Virginia.

" 41. Thorn Trees Pruned by Cattle, Top of the Allegheny Mts., Grant Co. W. Va.

" 42. Oaks Near Morgantown, West Virginia.

No. 43. Old Wind-fall Spruce Forest, Webster County, West Virginia.
" 44. Thrasher's and Williams' Galloways, Greenbrier Co., W. Va.
" 45. Looking Up the Monongahela River from West Virginia University, Morgantown, W. Va.
" 46. Scene on Cheat River, Preston Co., West Virginia.
" 47. Cheat River and Mountains Near Morgantown, West Virginia.
" 48. Dr. Border's York Imperial Orchard, Jefferson Co., W. Va.
" 49. S. W. Moore's Cove Orchard When Fillers Were Being Cut Out, Mason County, West Virginia.
" 50. Scene on the Greenbrier River, West Virginia.
" 51. Miller Peach Orchard, North Mountain in the Distance, Berkeley County, West Virginia.
" 52. "Where Time Has Slumbered", Nicholas County, West Virginia.
" 53. Williams' and Thrasher's Herd of Galloways, Greenbrier Co.
" 54. Home of S. W. Moore—Summer—Mason County., West Virginia.
" 55. Grimes Golden Tree, of Alex Clohan Along Pike near Martinsburg, Berkeley Co., W. Va.
" 56. Distant View of Greenland Gap, Grant County, West Virginia.
" 93. Male and Female Baltimore Oriole.
" 94. A pair of Ruffed Grouse, commonly called "Pheasant".
" 95. Two pairs of Bob-whites.
" 96. Pair of Chickadees; pair of Orchard Orioles.
" 97. Pair of Downy Woodpeckers; pair of Hairy Woodpeckers; pair of Flickers; one Red-bellied Woodpecker.
" 98. Pair of Turtle Doves.
" 99. Pair Carolina Wrens; pair Black-billed Cuckoos; two Screech owls (showing red and gray phase).
" 100. Pair of Meadowlarks.

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